

Rank Xerox has big cuts in store

by Greg Ingham
RANK XEROX's computer retailing activity is being cut back severely following a projected divisional loss of £1.2 million for the current financial year. This is despite claims that the division could have been profitable by Christmas. "But this is a completely political decision."

He added: "Effectively, our retailing division is being scrapped. It wouldn't surprise me if there was only one showroom left in a few months."

The official reason from Rank Xerox is that it wants to concentrate on selling its own micros, particularly the 820. External affairs manager Jimmy Baker commented: "Our product range is good and our great experiment is still evolving. What we're going through is a degree of rationalisation, not a cutback."

Low-cost electronic mail for micro users

by Philip Hunter
BRITISH TELECOM and Applied Computer Techniques have combined to offer inexpensive electronic mail services to users of most popular micros.

The service will be available only on ACT's 16-bit Sirius micro and its recently announced Apricot portable. But the company plans to support the IBM Personal Computer later this year and says that it will be possible to link any computer to the service, micro or no.

The service called Micromail will run through BT's Telecom Gold computer and will be entered by plugging a small modem card into the computer, which then automatically dials a personal mailbox. "After that all you need to do is read your mail," says Tony Bryan, managing director of the ACT bureau company involved in the development.

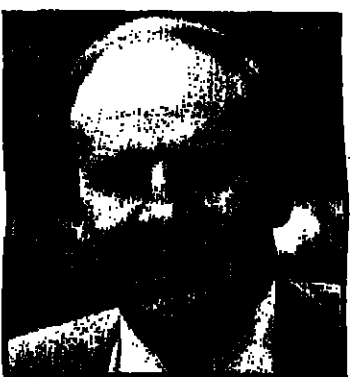
An electronic letter is sent by keying in the name of the recipient, then the message, with an optional express category for urgent missives.

Micromail works out cheaper than rival mail services, for short messages at least. A three-page A4 letter at off-peak times will cost 12.3p, less than a second class stamp. At peak rate a three-page 1,200 word letter will cost around 45p.

LINE NOISE

THE government is putting up £200 million over five years for the Alvey Programme of advanced computing research, partly as 50% grants to industry - but can UK firms match it? Ferranti manager Will Robinson points out that between five and 10% of turnover goes on research but most is to keep existing products up to date. Less than a fifth of research spending goes on new work and much of that work is not covered by Alvey anyway. By Robinson's calculations giants like Plessey and GEC spend about £5 million on Alvey-type work a year. But industry has to match the government's £40 million. So if the industrial giants are contributing less than half the £40 million, can the comparative minnows, the software firms, make up the balance?

AN unlikely microcomputer rallying partnership between Hepworth, the UK's number one micro assembler, and software house Data Logic is in the offing. Hepworth is believed to be planning to convert some of its 300 High Street shops to sell IBM and Nippon Electric personal computers. Hepworth is running tight-lipped about the deal, but it is expected that they plan to get the market sewn up with tailored systems.



BRYAN... "All you need to do is read your mail."

A similar message costs £1.12 to send by telex, £2.02 by facsimile, and over £7 by the Post Office's express manual Datapost service. But there is also the price of the package to pay for Micromail - £275 plus VAT. And a computer has to be bought, an Apricot micro costs about £1,500.

There are now 4,000 mailboxes attached to the Telecom Gold computer, a Prime mini. But these are video terminals, word processors or equipment dedicated to electronic mail.

Telecom Gold is one of BT's first commercial ventures, and the service operates over the telephone lines. But it also uses PSS, Packet Switch Stream, to link exchanges for long distance messages, to save the subscriber the cost of a trunk call.

BT is also developing a similar service called Telemail which will run exclusively on PSS. BT is delaying the release of Telemail until it can decide how much it can sell it for, according to an industry communications expert.

Software booms but mainframes moulder

by John Kavanagh
SOFTWARE is clearly the business to be in according to half-year results from some big US firms. MSA's income rose 46% and profit was up 420%, while Burroughs and Sperry showed no growth in the mainframe and minicomputer manufacturing business.

Last year MSA became the first independent software firm to top \$100 million in revenues. This year the target is \$140 million. At the half-way stage revenues were \$56.8 million. Profits recovered from a \$2.3 million first quarter loss to show a \$924,000 profit after six months.

"We've made losses in the first quarter for the last 10 years," said UK managing director Dan Schmidt. "This is a very seasonal business, especially in the US, where companies' financial years tend to follow the calendar year."

"In the first quarter they are closing their books, so there is no time for decisions on new systems. Those decisions come in the second half, in time for the new year."

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SCHMIDT... "This is a very seasonal business."



"Effectively our retail division is being scrapped."

micro stems from "a general lack of awareness of the retail market and its sheer inability to change."

And he adds: "The whole experiment of selling a wide range of micros has been a catastrophe."

Alvey is spot on

From page 1.
ell, who is running expert systems, and administration director Dr Timothy Walker from the Department of Trade and Industry.

Close links between the UK's Alvey Programme of advanced computing research and the BEC's Esprit research project are to be set up through GEC 4000 series minicomputer. The machine will link the university and inter-company packet switched networks of the UK programme with the Esprit network for information exchanges and to enable companies to find suitable partners throughout Europe.

MSA is growing quickly in Europe: new business was up 78% in the first half. And the Peachtree microcomputer software firm grew 150% to \$9.2 million - the same as for the whole of 1982.

Burroughs' revenues were slightly down at \$2,036 million and profit was up 2.6% to \$70.06 million. Sales revenue was flat and rentals fell 8% - at a time when IBM sales were up 30%.

Sperry's first quarter results showed a similar picture. Computer systems revenue was up just 1%. But overall the corporation seems to be on the road to a profits recovery, with a 32% increase to \$24.6 million. Total revenue grew marginally to \$1,221.8 million.

Computers account for about half Sperry's business, while electronics, including defence and aerospace products, make up another 25%.

The electronics and minicomputer group Gould had a 1.4% rise in turnover to \$645.7 million at the six-month point. Profit fell 11% to \$34.8 million, although much of the drop was from discontinued operations.

Sales of 32-bit minicomputers were lower than expected, but electronic components did well. Sperry UK vice-president and general manager Bill Read said that bookings, sales, and profit were all up in the first quarter. He predicted that 1983 would out of the year that Sperry UK came out of its "difficult patch" which has lasted two years.

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Computer crime is all a fraud say Canadians

by John Riley
THE widely-held "tip of the iceberg" theory that 85% of all computer crime goes unreported in billions of dollars lost every year was challenged in an editorial Canadian report.

"There is very little data which clearly demonstrates that computer crime poses a serious problem," states a Canadian government committee on computer crime, headed by Peter Bess, a Canadian MP. The committee, which has been sitting for 18 months, nevertheless recommended that two new offences be created in Canada: unauthorised access to a computer system, and unauthorised alteration or deletion of computerised data.

The committee states that computer crime is over-estimated because any offence remotely associated with a computer is described as computer crime. In instance, if a dishonest bank employee manually falsifies financial records which are fed into the bank's computer, it is longer considered fraud, but is computer crime. Therefore, there is a tendency to sensationalise the common offences.

Evidence collected by the committee "suggests that approximately 75 cases of computer crime are reported annually worldwide, with an annual loss of about \$1 million."

The committee concluded that "relatively little is known about the incidence and seriousness of computer crime", but that it is a justification for legislative intervention. That is why the committee recommended legislation to stop a series of abuses which are not prohibited in Canadian law.

Kinnock lashes education strategy

by George Black
LABOUR leadership contender Neil Kinnock has hit out at the government's "trivial response" to the need for computer education.

He described the "micro in every school" programme as cosmetic and inadequate and lashed out at what he saw as a retreat from the subject by the Inner London Education Authority.

"It is a real indictment that a major local education authority has to circulate schools advising them not to enter upon programmes which will encourage greater use of computers simply because there aren't the resources," said the Shadow education spokesman at a meeting at Stokesley in Yorkshire.

"A commitment which adds up to something like a half-hour's practical experience per child per year in secondary school can only be described as irrelevant in contrast with the commitment in some other countries - leading up to one computer for every student in the average American university."

He claimed that official IT "window-dressing" had hidden a massive shortfall in the output of newly trained staff.

"There has been no serious response to the manpower needs of the technological changes which are taking place," said Kinnock.

"There was a demand for 30,000 skilled workers, but trainees were only being output at the rate of 1,500 a year, which would rise to a maximum of 3,000, he said.

No effort was being made to provide proper training technology for 16-18 year-olds.

Labour must establish a plan for technology which would provide



KINNOCK... "Irrelevant."

thorough training, he said - "not just how to push buttons on a robot."

"Our nation is now in danger of comprehensively squandering the benefits of new technology as fully as the benefits of North Sea oil have already been wasted away by government policies."

MILEA's Brian Weaver said it had warned schools to think very carefully before buying computers that might be a burden on teaching resources. The main criticism of government policy was that the equipment was inadequate for the variety of school uses because of lack of training, support and suitable software.

Labour must establish a plan for technology which would provide

Is Department of Telecomms on the way?

by John Riley
TELECOMMUNICATIONS in the UK should be controlled by a new single government department according to the Home Office's Merriman Committee.

For the current control split between the Home Office and the Department of Trade and Industry is uncoordinated and piecemeal according to the committee's report. It recommends the establishment of a separate ministerial department with responsibility for all telecommunications or the formation of a distinct unit with its own minister within one department - preferably the DoT.

Dr Jim Merriman, former chairman of the National Computing Centre and chairman of the committee, said: "We were led to this conclusion because increasingly communications and computing are being seen as part of an integral whole and we were concerned when we looked at the organisational arrangements as they were. Part of the function was run by the Department of Industry and part by the Home Office."

"We are not criticising the quality, calibre and efficiency of the people in those departments, but having two masters is a source of potential weakness, resulting in increased difficulties in achieving co-ordinated policies," he added.

Merriman thinks that the new department should be responsible for all telecommunications - "by that I mean from radar and position finding, to British Telecom's definition of telecommunications right through to computing."

The committee envisaged the core of the new department comprising the Telecommunications Information Technology and Space and Post Office Divisions of the Department of Industry, and the Radio Regulatory and Broadcasting Departments of the Home Office.

In the past the idea of a more powerful information technology ministry has been resisted by Whitehall on the grounds that too much power could be concentrated in one department under one minister.

Merriman and his committee, Air Vice-Marshal Arthur Foden, a director of Racal, and Philip Vine, former chief executive of Nottingham, are already disappointed with the response to one of their recommendations. That was that the radio regulatory department should be transferred from the Home Office to the DoT.

It was transferred to the Trade section of the enlarged Department of Industry and Trade.

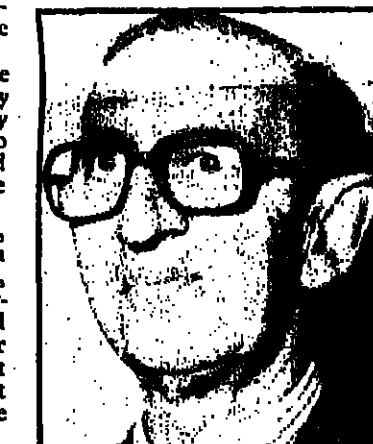
The Society for Telecom Executives, British Telecom's top trade union, published a 76 page booklet detailing the case against privatisation. It says AT&T is five times bigger than British Telecom which enables better economies of scale, that the British supply industry will suffer, that the benefits of liberalisation will be hindered and that if British Telecom gets into difficulties the government will have to intervene in any case. See story, page 3.

Marconi estimated that 150 of its software engineers would be occupied on the project - which threatens to make the dearth of experienced real time experts even graver towards the end of the decade. Marconi's share of the scheme could net £40 million to £50 million.

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The award to BA is another blow to troubled US firm Texas Instruments, the main rivals for the job. Texas planned to share the work with Lucas Aerospace, but the amount of work that this would bring to the UK was in dispute. The Texas High Speed Anti Radiation Missile (HARM) tender was eventually thrown out.

The laser-guided "thinking" missile will be designed to be fired from the Tornado aircraft to destroy ground anti-aircraft radar.



MERRIMAN... Wants single department.

Real time expert shortage intensifies

by George Black
THE already acute shortage of real time systems experts will be intensified by last week's announcement of a major Ministry of Defence contract.

And UK systems houses are anxiously awaiting the award of sub-contracts under the £250 million defence project which Secretary of State Michael Heseltine reported to the Commons.

The main contract has gone to British Aerospace to supply 750 air-launched anti-radar missiles (ALARM) to come into service in 1987. Most of the systems work will be carried out by BA staff at Hatfield and Marconi Defence at Stanmore - but at least a dozen sub-contractors are likely to be involved.

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ICL's DM-1 is expected late and dear

by George Black
ICL INTENDS its Business-29 scheme software houses to secret discussions on its new mainframe, the DM-1, late Friday.

Although they were made to sign non-disclosure agreements, Computer Weekly understands that the compact-looking new machine will be on the market from autumn 1984 at an entry-level price of around £120,000.

Both date and price took the software people back as they were expecting to hear of its arrival in the spring at around £100,000 or less.

Nevertheless, they were impressed to hear that it will be as powerful as the largest ME29 and fully-compatible with the ME29's TME, DME and CME operating systems.

It is being assumed that on Day One a VME-based machine will be available, with others, both higher and lower priced, following in early 1985.

This was the first occasion on which managing director Robb Wilmore has allowed anyone outside ICL senior management to be privy to its DM-1 plans.

In the past ICL has been criticised for launching hardware with little systems or applications software support - this time they are beginning over a year in advance with a series of workshops to encourage the programming experts to rally around.

One innovation will be the Application Master code, which will generate update programs from IDMS and the Data Dictionary.

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ICL is boasting that it will cut coding times by 90%.

Also bundled with it is ADRAM, the Alien Device Recognition Access Mechanism, a translation tool to VME, which could be a crucial element in creating upward compatibility.

ICL is pleased with the success of its Business-29 co-operative effort with software houses on the ME29 and wants to follow it up with similar schemes for VME and System 25. It will probably be called Partnership-25.

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مركز الحاسوب

Altergo has debts of over £400,000

by George Black
CREDITORS of Altergo, Britain's leading IBM applications software house, can expect to hear of unpayable debts totalling over £400,000. It ceased trading in April.

Receiver Ipe Jacob, of accountant Thornton Baker, who was appointed by Barclay's Bank, spoke of "very substantial liabilities indeed" possibly in excess of £400,000.

He said it was very unlikely creditors would be paid in full. Altergo Business Systems has passed into liquidation at the instance of two ex-employees and it seems likely there will be petitions for the other four Altergo companies to follow it.

Business Systems, like Altergo Software, is believed to have been in the black at the time of the collapse, but mutual guarantees between the firms could drag them all into the hands of the Official

Receiver. The bank would get the first cut of the proceeds, followed by the Inland Revenue, Social Security and other secured creditors.

Altergo was said by chairman Raj Thomas to owe £1.2 million when it went defunct, with Barclays refusing to up the overdraft of £600,000.

But co-receiver Maurice Withall observed this week that a company's debts often mounted after it went out of business.

Jacob and Withall have requested statements from the Revenue and DHSS on payments outstanding. A creditors' meeting is expected to be held on Altergo Business Systems at the end of September, when details of the group's finances will be clarified. It seems clear that a sale of the assets and operations has not met the liabilities.

Software Sciences paid £750,000

for Altergo Software; and Cord Designs is thought to have paid £70,000 for 60% of Altergo Ireland.

Data Logic, which bought Altergo Ltd and Business Systems, has not disclosed what it paid for them, but emphasised it had bought assets only and took no responsibility for debts.

Former directors of the companies are said to be privately worried about being faced with bills of which they claim to have had no knowledge. Thomas, who now lives in Boston, is said to be visiting this country in the next few weeks to talk to the receivers and his solicitors.

Withall commented: "It's likely to be very many months before the situation is sorted out."

An unresolved point is whether any payment could be compelled from either Thomas or his former partner, Len Levy, who also lives in the US.



Closed doors at the Altergo headquarters in London.

US firms keep close tabs on Europe

by John Riley
US COMPUTER companies are keeping closer tabs on the European data processing industry by helping with European Community information technology studies. In some cases, it emerges last week, they are responding more positively than their European counterparts.

This was noted by Communications/Information Systems (CIS), which is helping to win strategy for the European programme (Inter-Institutional Integrated Services Information System) to provide easier communications within the community institutions.

CIS, which is part of the Teke Group, is helping to win strategy for the last program with the aid of a detailed, 30-page questionnaire.

"Whereas in Europe some companies have said they can't answer certain questions, US companies have shown great willingness to participate," said Don Tich, office automation consultant.

"The top five or six US companies all participated and our company used seven people in three to four days to answer the questionnaire," he said. "The workings of the European programme are not clear to US companies therefore they are keeping a close eye on them."

"They consider it important to understand what the Commission and Europe are doing about automation."

The head of European affairs in the European Commission, Garth Davies, said he was trying to gather whatever knowledge about communications he could.

"Even though telecommunications in Europe are very good," he said, "there is more use of experience in the US, so we are getting information from there."

The Insis programme, which was originally proposed in 1979, is a study of using information technology to link European Community institutions on functional, geographical, cultural and linguistic levels, according to Davies.

"Coming out of the study phase and into the pilot study phase."

MOORE... The low level of the dealer margins is "a murky hole that needs some light shedding on it."

Acorn fair trade probe is scrapped

by Robert Parry
THE Office of Fair Trading has called off its investigation into Acorn Computers' way of selling through dealers.

It has looked at complaints received from an unnamed company in Scotland, but will not be taking any further action.

The company, a supplier to the educational and stationary trade, wanted to buy Acorn CCB micros to sell on, but came up against Acorn's policy that dealers should only sell to end-users.

Any unauthorised wholesaling would jeopardise the dealership. Acorn threatened a statement to its dealers. This is to maintain control over retail outlets for the micro.

Most micro suppliers vet their dealers in an attempt to keep up the standard of service to customers, and many companies rallied behind Acorn. There was a fear that any Office of Fair Trading investigation into Acorn's trading practices would rebound on them.

The Computer Retailers Association, which in the past has had stormy relations with Acorn over its treatment of CRA members selling the BBC micro, came out strongly behind Acorn too, giving its opinion that end-users can only be supported properly by

authorised dealers - whatever micros they buy.

But the CRA's support for Acorn has not stopped it in its campaign to win better terms and discounts for Acorn's authorised dealers. Its latest move has been to circulate a questionnaire to all 300 of Acorn's dealers to see if they are satisfied with the present arrangement with Acorn.

Pressure for this came from CRA members who were not happy, particularly at the low level of the dealer margins.

"It's a murky hole that needs some light shedding on it," said Tim Moore of Kuma Computers, the CRA council member who will be handling the returned questionnaire. He said he was a disinterested third party, with no commercial links to Acorn.

But reaction from Acorn and several of the larger dealers and distributors for the BBC machine is that this is none of the CRA's business, and that it is little more than a membership drive by the association.

"I see it as a move to help the CRA's operation, rather than Acorn's operation," said Acorn managing director Chris Curry. "It is a bit of an impudence. If the CRA comes up with a series of means, I will take them with the usual amount of salt."

UK must make chips - Sinclair

by Nuala Moran
BRITAIN must have its own chip making industry if it wants to take part in the next industrial revolution based on fifth generation computers.

Says Sir Clive Sinclair, the man who has sold more computers than anyone else in the world: "Not to have a semiconductor industry would be like not having any metal founding capacity during the first industrial revolution. It would be like Birmingham having been in Japan," Sinclair commented.

At the same time Sinclair slammed the government's Alvey programme for research into the next generation of computing. He said he would not invest in Alvey because he was not prepared to put up 50% of the money for research and then give away the results.

"If 100% of the money for projects was on offer I might take a view that some of the work could be done on our premises, but I don't see ourselves as the sort of place where this research should be done," he said.

Rather than the Alvey programme, the government should set up a central research facility to do fifth generation work. "It should be done on the same basis as the project to develop the atom bomb during the war. The government should bring everyone together for a crash programme," said Sinclair.

Sinclair said Immos must be kept British. But he has no intention to buy any of it if the government goes ahead with plans to sell. "Immos is a bit too big for me. It is not our business to invest in that kind of industry," he said.

He went on: "Very soon the only way to have a leading edge product will be to design the silicon from scratch. If we don't make chips we've had it. I think I'll emigrate," he added.

According to Sinclair, the British semiconductor industry should be based around the chip makers Plessey, Ferranti and Immos.

"The bits of the semiconductor industry we've got is where we start. We need a national sense of humour to hammer out a massive silicon foundry among those people."

Sinclair is planning to get into new areas of research. His new £2 million centre, Metalab, will open in the autumn. Projects at the centre will be those that do not fit in with current research or those which represent a high risk because it is not clear how long it will take to get a product to the market.

SINCLAIR... "If we don't make chips we've had it."

BT parties pump in campaign cash

by Philip Hunter
THE Government and British Telecom unions are to put more money into their publicity campaigns for and against the privatisation of British Telecom.

The six unions representing 240,000 BT workers have re-engaged the services of the public relations firm that helped them before the general election.

Government advisers have recommended a massive advertising campaign on television, radio and in the newspapers to sell BT shares to the public.

The government is convinced that BT's 22 million subscribers will need more than the policy booklet, "The Future of Telecommunications", to convince them that BT shares are worth buying.

Telephone subscribers will only be encouraged to invest if they can reclaim their stake easily and benefit from a discount or bonus by holding the shares, according to government researchers.

British Telecom, which has assets worth over £10,000 million, is opposed to providing discount to shareholders.

The six unions in the British Telecommunications Unions Committee remain firmly entrenched against the Telecom Bill, and continue to issue the usual rhetoric.

"All this Bill does is provide an opportunity for speculators to make money from a national asset which properly belongs to the people," the BTUC announced in a recent press statement.

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SINCLAIR... "If we don't make chips we've had it."

BT parties pump in campaign cash

by Philip Hunter
THE Government and British Telecom unions are to put more money into their publicity campaigns for and against the privatisation of British Telecom.

The six unions representing 240,000 BT workers have re-engaged the services of the public relations firm that helped them before the general election.

Government advisers have recommended a massive advertising campaign on television, radio and in the newspapers to sell BT shares to the public.

The government is convinced that BT's 22 million subscribers will need more than the policy booklet, "The Future of Telecommunications", to convince them that BT shares are worth buying.

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US denies firm with UK link

by Kevin Cahill
THE United States Department of Commerce has added new companies, one with UK connections, to its list of export denial orders.

Uni Data Transport, with an address in London and an associated company in Zurich, Switzerland, appears alongside denial orders made against Dierk Hagemann, who operated out of El Segundo, California, and Robert J. Lambert and Margaret Lambert, who both operated out of Yorba Linda in California.

The various individuals named in the orders face an indefinite denial of all export privileges for US originated goods to any destination, pending the outcome of investigations currently in progress which, the US customs say, will lead to prosecutions under the Export Administration Act.

All the individuals and companies have been denied privileges for the alleged export of computers and electronics to East Europe without licences.

The new names have been revealed in the wake of a major investigation involving the micro products manager of Calma France, Felix Popovitch, and a network of associates in France and the US.

Popovitch and the French-based group were illegally shipping high technology to the Eastern bloc via Lichtenstein and Switzerland, according to US customs officials.

Indictments against the US partners in the Popovitch case are expected shortly and there are rumours that the value of equipment involved may run upwards of \$50 million.

New evidence suggests that the Popovitch group concentrated on the key Eastern bloc deficiency in computer aided design and manufacturing equipment, and that its activities may stretch far beyond the limited number of companies from which it is so far alleged to have obtained equipment.

From 1970 Popovitch was constantly involved with US companies in the CAD/CAM field.

Included in the new denial orders are various Europeans, including Albert Franz Kessler with an address in Switzerland and associated with Lambert Unidata.

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LEWIS... Signed the contract

Euro Commission buys an Amdahl

by John Riley
THE European Commission has gone American to boost its computer power and is to install an Amdahl mainframe at its computer centre in Luxembourg.

The contract to supply the commission with an Amdahl 470V/7-B machine was signed by John Lewis, president of the Amdahl Corporation and Richard Burke, the Irish Commissioner.

The computer is being made in Swords, near Dublin, and will join the existing ICL and Siemens mainframes in Luxembourg this October.

The Amdahl computer is not

replacing those machines but will take over tasks, mainly Community statistical work, which had been carried out through service bureaux to Bull and IBM mainframes.

"By 1985, we expect the total computing power in the Luxembourg computer centre to be 10 times that of 1981," said a commission spokesman. "The Amdahl was chosen because it offered the best price performance for our needs."

The commission would not supply details of the value of the deal, which includes unspecified IBM peripherals and an ITT telecommunication controller.

Rolfe and Nolan goes into turnkey systems

CITY bureau Rolfe and Nolan is diversifying into turnkey systems following its appointment as a DEC OEM.

It aims to get into the manufacturing market through a new partnership with the Newcastle software house Maribus. The bureau has taken a 10% share of Maribus, with equal shares being bought by Rolfe chairman Tim Hearley and the merchant bankers ICF.

Maribus managing director Steve Nesbitt introduced Rolfe to the manufacturing package Command, written by Pioneer of Northampton, which runs on DEC PDP-11 and Vax minis. Together they plan to develop payroll software to interface with Command.

Malcolm Rolfe, managing director,

said it intended to offer Command as a bureau service so customers could test it out before committing themselves to a turnkey system.

The tie-up involves Hearley also becoming Maribus chairman and Rolfe's John Westwood joining Maribus's board.

The bureau, which turned in results of £321,000 profit on an £1.8 million income, does most of its business in commodity broking, which remains successful while other bureau services are in decline.

Rolfe attributes this mainly to the thinness of competition. The International Commodities Clearing House bureau run by the banks is its chief rival.

Zebra earns its stripes

GENERAL Automation has sold £1 million worth of Zebra systems, its Pick-based range of micro and minicomputers, in the five months since they were launched. But the promised Xenix-based systems have yet to come to market.

Mike Long, the company's

managing director, said there had been problems getting Xenix to run on his hardware but these were now sorted out. "I expect the Xenix version to be announced at Comdex in the US in November," he said.

The company is forecasting that it will sell £4 million worth of Zebra systems in its first 12 months. Long said: "Pick has sufficient attributes to compete with anyone else's kit or software."

And Long said that Zebra will not be standing still. Vulture, an add on board that sits on Zebra's back and speeds up Pick operation is expected to be announced by Pick shortly. Vulture will work hand in hand with Zebra's 68000 processor. A networking system is also in the pipeline.

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TECHNOLOGY INTELLIGENCE

IBM's nut sends stock tumbling

REPORTS that IBM was on the verge of launching its home computer last week sent a shock wave through high technology stocks on US stock exchanges.

And, despite good reports from many computer companies, shares dropped in price as shareholders, with the lesson of Texas Instruments' \$100 million loss, sold their holdings.

The selling was the result of reports that IBM planned to launch its "Peanut" home computer at the beginning of September.

Among the companies to suffer share-price drop was Wang Laboratories which last week announced that 1983 would be another record-breaking year with revenues up one third to over \$1½ billion compared to \$1.159 billion last year. The company's profits were up 42% to \$152 million from \$107 million last year and chairman An Wang announced an increase in the company's dividend.

Nevertheless, the shares dropped \$4.75 in value to \$34 on the American Exchange.

And on the rival New York exchange Honeywell dropped almost as much in value, \$4¼ to \$120 per share, despite reporting a slight gain over the equivalent quarter of 1982 without taking into account its \$30.3 million dollar bonanza for the sale of shares in Cii Honeywell Bull, its French joint venture.

Biggest losers were Texas Instruments, which dropped \$5¼ to \$115½ per share and Digital Equipment, which dropped the same amount to \$104½. Even giant IBM, the reported cause of the slide of high technology shares, dropped \$2½ to \$123¼.

IBM's "Peanut" is reported to be the company's bottom of the range offering for home use, a single unit to plug into a television set. It is likely to be sold through mass market outlets to compete with the Commodore, Atari and

Texas Instruments machines with a retail price of less than \$750.

It is expected to use an Intel microprocessor, as does the IBM personal computer, most likely the new last iAPX 186 and 188 chips.

Last month US computer company reports generally recorded an increase of profits and turnover compared to 1982. Motorola announced its turnaround as the market for all types of micros improved.

Sales were up slightly on 1982 at \$1.99 billion for the half year, compared with \$1.88 billion for the same period last year.

International leasing specialist Comdisco reported record earnings for its third quarter of \$13,199,000, an increase of 127%. The company cited increased profitability from financial services and a lower effective tax rate for the increase. Net earnings for the nine month period were \$36 million, 69% up on 1982.

Give your favourite a chance to win a Rita

NOMINATIONS now are being accepted for two major awards for the UK computer industry. Awards for "Systems Innovation of the Year", to be sponsored jointly by the National Computing Centre and Computer Weekly, and "Newcomer of the Year", sponsored independently by Computer Weekly, will be given under the Recognition of Information Technology Achievement scheme (Rita).

Nominations in each category will be presented to a distinguished panel of judges, with the winners being announced at the Rita awards dinner in Birmingham on January 17, 1984.

The ground rules for nominations are simple. Select your choice for "Newcomer of the Year", or "Systems Innovation of the Year", or both, and complete the form below. A separate entry should be made for nominations in each category.

The award to "Newcomer of the Year" will go to that start-up computer company which the judges think best exemplifies how the UK can remain a force in information technology markets.

The company will have been in business less than two years as of the time of close of nominations on

September 30, 1983. Judging criteria will be relatively open-ended, but can include: financial performance (where available), market penetration, employment opportunities, innovation, and initiative and imagination.

The company must be of UK origin, and should be involved in the provision of hardware, software, or services to the information technology market.

"Systems Innovation of the Year" will be awarded to that complete system, component, peripheral part of a system which is judged to be the most outstanding example of achievement in the field of information technology in the UK during 1983.

The equipment or systems must be available in the UK during 1983, and the innovative element in the system must be wholly or predominantly of UK origin. Software alone and word processing or office systems are precluded as these are covered by other Rita awards.

Companies or individuals cannot nominate themselves. Members of the staffs of Computer Weekly, the National Computing Centre, and Clapp & Pollak may not enter.

In each award category, a case of

wine will be awarded to the person who first nominates the ultimate winner. In addition, the first person in each instance who nominates one of the two runners-up will also receive a case of wine.

Nominations should include a short statement explaining why the company or individual should be judged the "Systems Innovation of the Year" or "Newcomer of the Year". Nominations must be received by Computer Weekly before or on Friday, September 30, 1983.

Judges for the Rita awards 1983 are: Doug Eyselens, director general, Computing Services Association; David Pirnberg, deputy president, British Computer Society; David Fairbairn, director, National Computing Centre; Ted Cluff, secretary general, Institute of Data Processing Management; and Dr Paul Freeman, director, Central Computing and Telecommunications Agency.

There are six other Rita awards in addition to those sponsored by Computer Weekly and the NCC: Software Product of the Year; Office System of the Year; Supplier of the Year; User of the Year; Personality of the Year; and Best User's Training Method of the Year.

RITA Recognition of Information Technology Achievement AWARD

Return this form, to arrive by first post September 30, 1983, to: Linda Allen (Rita Awards), Computer Weekly, Room L218, Quadrant House, The Quadrant, Sutton, Surrey, SM2 5AS.

I wish to make a nomination for the Newcomer of the Year/Systems Innovation of the Year award. (Please delete where appropriate. If you wish to nominate in both categories, please photocopy this form.)

My name _____ Job title _____

Company _____

Company Address _____

Telephone _____

My nomination is (Newcomer or System) _____

Company Address (full postal address if possible) _____

I attach a short statement explaining why my nomination should win.

Signed _____ Date _____

SALES BRIEF

Motorola has \$50m deal with AT&T

MOTOROLA has won a contract worth at least \$50 million to supply digital switching and base unit equipment for nine of AT&T's planned cellular radio services in the US. AT&T will also buy systems from its own Western Electric manufacturing subsidiary.

Amdahl order

BRITISH Airways has ordered £1.5 million worth of disc drive and controllers from Amdahl, whose 470-series mainframes it has used since 1978. The order is for nine 6880 controllers and 41 486 drives to replace many of its existing 3330-class devices. It will provide nearly 40Gbyte capacity and were chosen because of price, performance and customer mental characteristics.

ICI buys minis

ICI HAS ordered three GEC 1Mbyte minicomputers for its first stage in its pilot project to implement Open Systems Interconnection on its in-house computers. The minis will be used as network management centre of two packet switches, forming a link between the company's private data networks and public services based on the X.25 international packet switching standard.

Tarmac is Safe

TARMAC Construction has retained Safe Computing on a £140,000 contract as consultant during its conversion from DME operating system to VME. Its two ICL 2955 mainframes, its system supports 30 VDUs at its office and 22 terminals in depots around the UK. The move to VME is designed to improve facilities for software development and services to end users.

BT takes ABC

BRITISH Telecom has placed the first order for an enhanced version of its Alarms By Carrier (ABC) system with Standard Telephones & Cables, which developed the system under contract to BT. The enhanced version of signal three different types of emergency - such as fire, flood or intruder - and route the call to the appropriate authority.

Booking improves

BRITISH Rail has reported a BASF 7/60 processor with a 100 7/68 to support its plans to more than double the scale of its agents' computerised booking system for Sealink ferries and seats. In the peak season the system is expected to handle more than 10 messages a second from an eventual 4,000 travel agents and viewdata terminals.

Quest for MSC

THE first of the Manpower Services Commission's Skillcentres to offer training in computer-aided design to traditionally trained draughtsmen has installed a £43,000, Quest CAE Quantum, two-dimensional mechanical draughting system.

Philips overseas

THE first overseas order for the Philips 3607 14in colour business viewdata terminal, launched in March, has come from the Indian Post Office. The order is for more than 500 terminals, with a total of £500,000, to be installed in the next few months.

Sony UK is first

SONY UK has become the first user of BL Systems data communications network under the Department of Trade and Industry Value-Added Network Service licence. BL's network is being expanded to be within local range of 60% of UK business phone users.

Robots face trade unions' anger

collecting phantom dues from companies on behalf of their robots. The report concludes that the main need is to retrain the displaced workforce up to the technical and literacy standards needed in computerised factories.

"There's been a great deal of protectionist talk on Capitol Hill as far as freezing out the competition



BROAD... Optimistic and pessimistic.

French minister makes bosses chafe

by Jack Gee

THE heads of France's state-owned computer and electronics firms are beginning to chafe under the new mastery of Telecommunications Minister Louis Mexandeau, whom President Mitterrand recently appointed overlord of the two industries' development.

One of the first moves by Mexandeau in his new position as supreme has been to sign an agreement with West Germany's Telecommunications Minister Christian Schwarz-Schilling for joint development by the two countries of a cellular radio system, the S900, following Britain's decision to introduce its own technology.

Mexandeau has upset the heads

of the industrial groups by declaring: "This will be a phone system for cars and also a portable system for individuals. It will be Franco-German and I hope European. One day I shall go to see Visse Dekker, chairman of Philips and tell him: 'Here I am. Treat me as your guest. Now we can get down to brass tacks.'"

The French minister's statement has come as a shock to Alain Gomez, head of Thomson-Brandt and his counterparts Georges Pebereau at CIT-Alcatel and Jacques Stern at Bull.

They regard the blunt remarks by bearded Mexandeau, a former history and geography teacher, as a warning that now he has taken command of the five-year electron-

ics plan, their opinions will not count for much.

Mexandeau confirmed the industrial bosses' fears by adding: "We are not going to try to do everything at French Telecom. The nationalised firms will keep their independence. But our Telecom engineers and research temps have already acted as pilots for the telephone industry. Why should they not succeed in electronics too? After all, it is only an extension of their know-how."

The minister appears to have forgotten the stern warnings which President Mitterrand gave his Cabinet at a meeting earlier this year, urging them not to meddle in the affairs of industry.

This warning was directly aimed

at Minister for Technology and Industry Jean-Pierre Chevènement who took it on the chin. Refusing to comment on Mitterrand's admonition he said: "A minister keeps his mouth shut or leaves the government." A few weeks later he was dropped, apparently at his own request, in a Cabinet reshuffle.

Commenting on the future of the information technology industry, Mexandeau said "Where will this industry be in three or four years? Nobody really knows. But, unless realignments or alliances are made quickly on a European scale, we shall find ourselves in the roles of sub-contractors to the multinational groups. We shall have to make alliances quickly."

HP expects earnings to drop

by John Riley
HEWLETT-PACKARD forecast a drop in earnings for its third quarter ending July 31 compared with the same period last year.

The announcement follows hard on the heels of the news that another major US minicomputer manufacturer, Prime, had a 25% drop in earnings in its latest quarter.

John Young, Hewlett-Packard's president and chief executive officer, puts the blame on above-average marketing expenses caused by beefing up the company's field selling activities. The company reports that while earnings are down, sales and incoming orders are up on last year.

"During the first half we initiated steps to support recently introduced products and to better respond to increasing customer requirements for more extensive computer software," explained Young. "We also wanted to be in the best position for a business upturn, so we moved to take care of field staffing and training needs before the recovery hit with full force."

Last week the company declared a two-for-one stock split which will double the number of shares and also raised its total cash dividend by 20%. This means that for every old share earning 7½ cents a quarter, shareholders will own two new shares earning 4½ cents a quarter each. That will make shares cheaper and encourage speculation.

Zygal's new deal helps the dealers

by Nuala Moran

PROVIDING end user-type service to small dealers and computer shops is part of a new marketing strategy launched this week by Zygal Dynamics, the terminal distributor.

Under the deal there will be an unlimited warranty on demonstration equipment and the 90 day field service warranty will be extended to six months from date of sale to end user.

If there are any problems Zygal's field engineers will visit the dealers' premises, saving equipment and money sending equipment to Zygal's service centre in Bicester.

Zygal has also introduced a finance plan which allows dealers to pay over three months. This will ease dealers cash flow.

Des Flynn, Zygal's sales and marketing director, said: "The retailer has traditionally shied away from the more sophisticated and expensive terminals. He is worried about support and cost, although to have such equipment to offer adds a highly desirable string to his bow. This deal means they won't have to worry unduly about finance or maintenance."

Discount will be available up to 35% for cash, but Flynn said: "We are not trying to tie the dealers to

UN asks UMIST man to help in India

by Nuala Moran

PROFESSOR Gordon Black, UMIST professor of Computation and director of the Manchester-based regional computer centre is to visit India at the request of the United Nations to do some consultancy work.

Black will spend three weeks at a research centre in Poona advising on large systems in research and development. The centre is involved in hydrolics research including power stations and water supplies. "They need a computer to help with research," explained Black.



FLYNN... Wants network.

discount. What we want is to build up a good dealer network."

Fast turn around from Zygal's 16,000 square feet capacity warehouse is another aspect of the dealer deal. The company is offering next day delivery.

The deal applies to all Zygal's range of terminals, including Diablo and Fujitsu daisywheels, DEC VDUs and GEC matrix printers.

Zygal sells direct to large end users and OEMs and Flynn said the move to attract dealers would not affect the direct sales force working in this part of the market.

He also said the company was prepared to expand its service organisation to cope with a growing demand, but added: "We are selling good products. Diablo for example is a market leader. Such products don't need much servicing."



BLACK... In demand.

The Professor has often been asked to give advice in a similar capacity. "This is nothing new for me," he said.

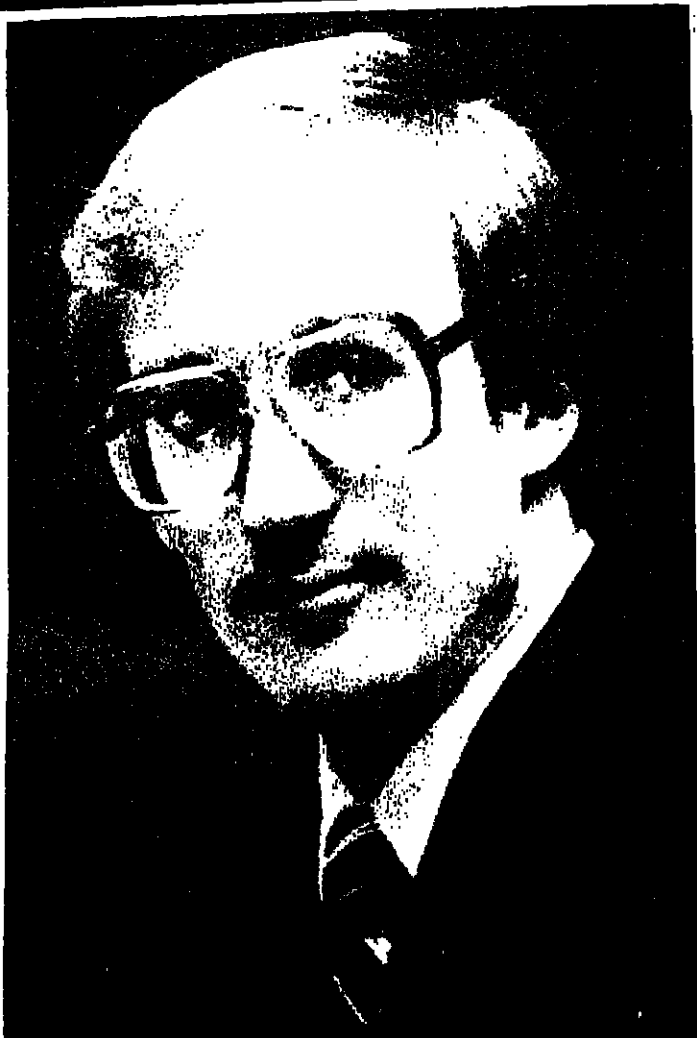
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Cincom promises Ultra for October

by George Black
The US-based software house is sticking by market trends in making DEC the second string to its IBM software, for other manufacturers' equipment will be developed on a "selected basis".
International sales director Dennis Yablonsky said in Cincinnati that Ultra was in the final stages of customer testing after intensive development at its UK research base.
A worldwide announcement will be made at the end of September. TIS, boosted to be the biggest piece of software ever written outside IBM, was first announced as a concept in 1975, which Cincom agreed was probably too early considering the time it took to deliver. But Yablonsky said: "Customers are making long-term decisions so we feel we must let them know that the products are coming." TIS now has 50 US customers and four in Europe since its 1982 general release.

Cincom's Vax effort is a recognition of the growing importance of the 32-bit supermini. Mini systems software and applications products are likely to form Cincom's main growth area over the next five years; at present three-quarters of its revenue — predicted as \$71 million for the year ending September 1983 — still comes from IBM mainframes and plug-compatible systems software. Total, the database management system from which TIS has evolved, has about 6,000 installations worldwide, including 12 of the 15 biggest databases, Cincom claims.
But it is emphasised that TIS is a new system, not a rewrite of Total.
European marketing of TIS is only now getting off the ground, with the four European users including British Leyland. The European market position of TIS will be greatly strengthened by the release of the DOS operating system version planned for the middle of 1984. To date only the

OS version has been available, limiting the number of possible sites on this side of the Atlantic.
TIS product manager Tom McLean said: "Nobody is really relational today. We, like our competitors, are working that way."
TIS did not do it all, he admitted, but was approaching the relational implementation. The directory, as opposed to dictionary-driven TIS, has taken a \$30 million investment and about 350 man-years of effort, he said. Rival Cullinet is claiming its IDMS/R as a fully relational database.
Ultra products are almost identical to TIS. A Vax version of Cincom's fourth generation language Mantis is planned, but is still at least a year away, according to Yablonsky. Meanwhile Cincom is keeping an eye on the possibilities with other hardware. In the crucial 32-bit mini sphere it gets over 12% of its income. Wang, Prime, and NCR are pressing for a closer collaboration.
Product planning manager Don Campbell talks of converting TIS for ICL, in line with a "local development" strategy.



YABLONSKY... "In the final stages of testing."

Government funds CAD/CAM study

by Nuala Moran
UNDER a revamped CAD/CAM awareness scheme, the Department of Trade and Industry will provide half the cost up to £50,000 for firms to hire consultants to plan the introduction of new machines and production methods.
This is one part of the enhanced CAD/CAM awareness project announced last week by Kenneth Baker, the Industry Minister. The allocation of the £10 million fund, the changes will cost was announced in the March Budget.
Until now the amount available for consultancy under the awareness scheme was limited to £2,000 for feasibility studies. This figure has now been increased to £5,000.
Provision of money for plants how to introduce CAD/CAM as a new facility, and should overcome criticisms that the awareness scheme did not help firms implement recommendations in feasibility studies.
Baker also announced the scope of the project will be extended so that any company with significant design problems eligible. This will include companies involved in the mechanical, electrical and electronics sectors or which manufacture discrete products in other sectors which call for significant engineering design, or provide direct support services to these manufacturing sectors.
The DoTI has commissioned a self-teaching programme to help industrialists how to use CAD/CAM techniques. The programme will cost £500,000 to produce, but this will cover the first 1,000 copies of the programme.

WORLD COMMUNICATIONS

Third World benefits from telecomms onset

Donald Kennett discovers the progress of World Communications Year

A MESSAGE to those who did not know already: it is World Communications Year. If that strikes anyone as news, the reason could be that the "communications" in communications year have been remarkably quiet.
We are now seven months into this World Communications Year (WCY), but it was only last week that the UK committee had its first meeting.
But committee chairman Sir Donald Maitland, a former diplomat and permanent secretary at the Department of Energy, said that a working group appointed by the committee had been hard at work from the beginning of the year and quite a lot had already happened.
The committee met last week to review progress, and it was pleased with that progress, he said. It would have a second meeting later in the year.
"If you start off with a bang in January, it is hard to sustain the noise for the rest of the year," he said. "Quite a lot has already happened and it will build up to a crescendo towards the end of the year, centred on Telecom 83 in Geneva in October."
Telecom 83 would be a major platform for UK interests, with UK firms combining to occupy a stand covering almost an acre, he said.
The objective of the United Nations' World Communications Year campaign is to focus governmental attention, particularly in developing countries, on the role of telecommunications in the business and social life of a country.
In Maitland's view, improved telecommunications facilities had already helped education in India and Brazil, economic and social change in Indonesia and, more specifically, had helped to provide pure water supplies in Kenya, as well as improving the food production and distribution system there.
The film, *Person to Person*, made for the Department of Trade and Industry as part of the UK contribution to the international side of World Communications Year, describes the installation of satellite and microwave links in Nepal which began to transform the country's tourist industry in a matter of weeks.
In Hong Kong, the film says, efficient telecommunications allowed the people to take advantage of the opportunities that have attracted outside investment and to build up their own industry.
The film was a major part of the UK contribution, according to Maitland. It would be on continuous show on the UK stand at Telecom 83, where it was being



MAITLAND... "If you start off with a bang in January, it is hard to sustain the noise for the rest of the year."

countries, particularly by the US, to allow private companies to operate international satellite transmission facilities could undermine the economic basis of In-ter-net, the international satellite organisation run by government representatives.
The argument is essentially the same as we have seen in the UK over the opening of the national network to competition. Critics say there will be "cream skimming" on the most profitable routes by the commercial organisations, which will remove the income used by the main carrier to spread its services as widely as possible to the benefit of all.
The "liberalists" argue that competition will generate more traffic and a faster growth of new services, to the benefit of all.
The developed countries want to

WORLD COMMUNICATIONS YEAR 1983 THE U.K. CONTRIBUTION

The most direct form of aid coming from the UK under the WCY campaign is the supply of 3,000 telephones to the Lebanon by British Telecom. BT also gave training to two Lebanese engineers

benefit from cheaper communications. They also want to sell their telecommunications products to the Third World and they want to open up the information channels through which trade is co-ordinated.
Presumably the Third World countries should welcome that, only maybe they don't know it yet. World Communications Year is supposed to be the means of telling them.
We in the UK don't need a World Communications Year, according to Maitland. "We cannot present telecommunications as something new," he said. "Like doorstep milk delivery it happens splendidly and we take it for granted. It's hard to work up enthusiasm about it."
But with something like 75% of the world's telephones being concentrated in 10 countries, there should be no shortage of places where enthusiasm is easy to come by.
This did not mean that the problem of the low priority given to telecommunications in many countries would disappear because of the recession and the loan crises. The Brandt Commission had also had a positive influence, he said.
Third World countries are now worried that plans by developed

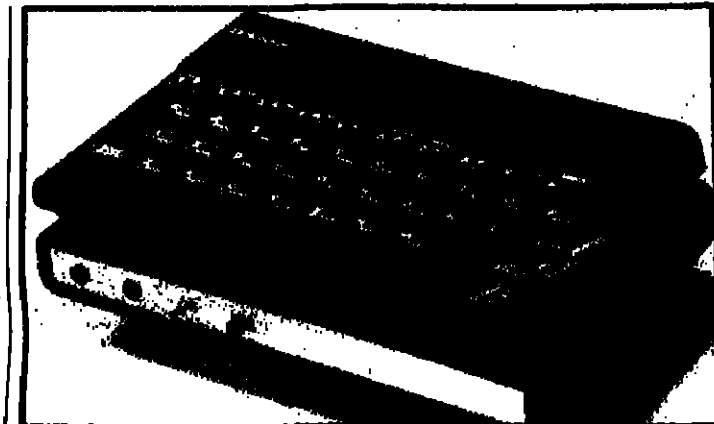
tence. Twenty engineers will come on courses instead of the usual five or six.
Cable & Wireless is providing training to senior Chinese officials and is bringing a technician from St Kitts to the UK for training. The Department of Trade and Industry is sponsoring two radio engineers from Ghana at a frequency management seminar at the International Telecommunications Union in Geneva.
To demonstrate what UK technology will do for rural communities in developing countries, the Trade and Industry Department is in the final stages of organising the supply of three British Telecom designed UKD-5B rural exchanges, worth a total of £1.5 million, to a still-unnamed Commonwealth country.
A conference sponsored by the Department of Trade and Industry, BT and Cable & Wireless in November is also aimed at Commonwealth countries. Though non-governmental, it is intended to bring together policymakers to discuss how the benefits of modern communications can be enjoyed.
The organisers plan to report on the conference to the new International Commission for Worldwide Telecommunications Development. The most direct form of aid

coming from the UK under the WCY campaign is the supply of 3,000 telephones to the Lebanon by BT. BT also gave training to two Lebanese engineers and is sending two of its own engineers to the Lebanon for reconstruction work.
Despite the UK's having little need of telecommunications, the Department of Trade and Industry is sending 80 sixth-formers and 21 trade unionists to visit telecommunications companies in Japan, the US and West Germany in December. The host companies include Nippon Electric, Fujitsu, AT&T, GTE and Siemens.
The Trade and Industry Department has also produced a pack of wallcharts and teachers' notes for schools. Open days and seminars have been held at Plymouth and Ulster Polytechnics and at Bradford University.
Other events for underdeveloped UK residents include two Department of Trade and Industry-sponsored display booths of telephones, teleprinters and videodata sets, which started their tour of mainland stations and airports in June, and the WCY Commemorative — a *Maestro* on loan from BE Car, which has been fitted out with a BBC Micro, a teletext television, a radio telephone, two Citizens' Band radios and a radio and cassette tape player.
The car is doing a tour of telecoms-related and unrelated events, including the Post Office Engineering Union conference in June, the Telecommunications Managers' Association conference in September, the International Business Show in October and Compec UK in November.
Standard Telephones & Cables sponsored a telecommunications gallery at the Science Museum and a lecture on optical fibre communications, originally to celebrate its centenary, but later also as a contribution to the WCY campaign.
The lecture, which did a tour of the UK as the Photon Connection, may now be taken abroad.

See Leader Comment — page 13.

Four US varsities get \$13m windfall

by Howard Karten
FOUR US universities were named last week for \$13million National Science Foundation (NSF) computer science grants.
The grants, which stretch over a five-year period, will be used by the schools to try to expand computer research facilities, improve the general research environment in universities, and attempt to persuade more professors and graduate students to remain in the groves of academe.
Largest recipient was the University of Maryland, which will be given \$4.5million over the five years for work in image processing, numerical computation, and parallel multiprocessor systems.
The University of Pennsylvania will get \$3.8 million for artificial intelligence and natural language processing work, according to W. Richards Adron, program director for co-ordinated experimental research within the NSF Computer Science Division.
The NSF is an independent government agency charged with supporting, via grants, fundamental and applied research in all the sciences. The computer science program is currently running at about \$32 million, according to Adron, and has been increasing each year under the Reagan Administration.
Much of the most recent grants will go towards capital purchases and support staff.



The Sinclair ZX Spectrum and Prism VTX 5000.

Micronet gets on Spectrums

by Donald Kennett
MICRONET 800, the electronic magazine for micro users on Prestel, has latched on to the popularity of the Sinclair Spectrum to boost its user base.
Prism Microproducts, the company which handles the hardware and software interfaces for Micronet, has launched the Prism VTX 5000 videodata adapter at £99.95, the same price as the Spectrum.
It fits under the Spectrum, contains terminal emulation software in ROM and can communicate with similar devices at 1,200 bits per second in both directions, as well as with Prestel at 75bps up and 1,200bps back.
Paired with a 16Kbyte Spectrum it is claimed to be the first intelligent videodata terminal for less than £200.
Messages and graphics can be composed offline and printed on the Sinclair printer.
The first large order for the device has come from the Nottingham Building Society, for use with its Homelink home banking service on Prestel.
In the later stages of development, the ACP is intended to link all types of terminal to all types of processor. Implementations of IBM protocols are to be followed by enhancements based on international standards, if feedback from the market confirms that this is appropriate, and host-to-host links will be implemented via Network Systems Corp's Hyperchannel 50 Mbit-per-second local area network, for which Modcomp has a marketing licence.
In the UK in particular, Mod-

comp expects to be involved with supporting interactive data services on cable television networks, using a product it is developing as a successor to Hyperchannel.
"Wherever someone wants to run digital communications on an otherwise analogue channel, we're bidding for the business," said Howe.
"In the US, the cable companies are already in bed with the telephone companies and the market is sewn up," he added, "but we anticipate being a supplier in the UK."
"We expect to have a pilot system in next year. Banks, supermarkets and others will be using at least two of the seven cables in a trunk for business purposes."
"Once you see several customers doing it, you realise there's a gap in the market," Key said.
Sales into the CDC market currently account for 5% of Modcomp's communications product sales, which in turn are half of the total turnover.
If the ACP is successful, it will account for 20% of communications sales over the next few years, according to European communications marketing manager Dick Howe.
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In the UK in particular, Mod-

Wang's personal top 20 due

WANG is to announce the first 20 third party software packages for its personal computer in September.
This will be the first announcement under the company's Software Connection which will make third party software packages available through the Wang dealer network.
David Pheasant, Wang ISO

marketing manager, said: "A wide range of application software available through a comprehensive dealer network is one of the keys to the company's future growth in the personal computer market. The Software Connection is an extension of the programme introduced for the acquisition and provision of software for our VS range of hardware."
Sivea offers national advertising, sales manuals, catalogues and carrier bags. Its franchised shops report that beforehand the manager spent three-quarters of his time on buying merchandise. Now, thanks to Sivea's purchasing pool, the proportion is cut to 10%, leaving the manager free to concentrate on selling.
Computerland, the world's biggest network of microcomputer retail outlets, with over 450 shops in 15 countries, has only eight shops in France including two in Paris and other French cities.
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Users' ideas spur Modcomp to act

by Donald Kennett
MODCOMP has been led by its customers to develop a communications processor which it claims will last for 10 years in the market-place.
Modcomp marketing consultant Chris Key said that when development of the ACP (Advanced Communications Processor) started in July 1982 it was because the company had realised that about 15 of the organisations with Modcomp Classic minicomputers were using them as front-end processors for Control Data Cyber mainframes.
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Floating Point floats new range

by Robert Parry
ATTACHED processor holder Floating Point Systems has revamped its products to meet the threat from breakaway rivals in new FPS-5000 family of processors increases performance by up to six times, gives four times as much memory capacity, and brings the price per megabyte down to below £1,500.
"With a distributed architecture and the latest technology, we have realised a threefold improvement in price/performance over previous Floating Point Systems products," claims UK managing director G. Gadd. "It breaks the £1,500 per megabyte barrier for the first time in any floating point computer system."
The 5000-series products range up to 62 megaflops, and will have all the front end computer interfaces supported on the new Floating Point Systems 3048 array processor line. Software for these FPS-100 and AP-1208 will run on the FPS-5000, and require "minimum effort" for the user to take advantage of the power the new systems offer.
"Our intent is not to make customers overhaul their present software," adds Gadd. "The 5000 series is planned to merge with existing applications software for continued system evolution."
The new array processor was aimed at general signal and image processing applications such as medical imaging and seismic data processing. Floating Point Systems' biggest customer is General Electric Medical Systems for X-ray and nuclear imaging. The resonance scanners, the microcode for more specific applications should be no problem. It is just a matter of finding the time to write it, according to the company.

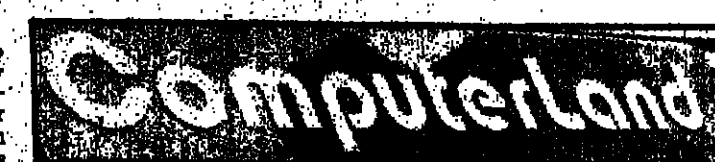
Unlike agricultural, industrial and civil engineering projects, on which Third World countries spend most of their foreign aid money, telecommunications services can be sold as soon as they are installed

Micro franchises fire some French fervour

by Jack Goss
FRANCHISE selling of microcomputers is beginning to take off in France where three firms — Computerland, Sivea and Cebea — now supply 30 retailers. Nationwide sales are targeted within a year or two.
Franchising in all fields of selling has until now developed slowly in France. But 500 franchise groups are now leading their brand name to 1,700 shops. About 200 of the franchise owners are newcomers during the past year.
By 1985 one-third of French re-

tailing will be conducted on a franchise basis.
Trail-blazer in French microcomputer franchising is Sivea, a computer services firm founded in 1972 which moved into micro in 1979. Sivea now has a dozen franchised stores in Paris and the provinces.
Philippe Comeyane, Sivea marketing manager, said: "We soon knew we were the market leaders, and our suppliers confirmed this by giving us delivery figures. That was when we decided to spread our wings outside Paris and conquer

other French cities."
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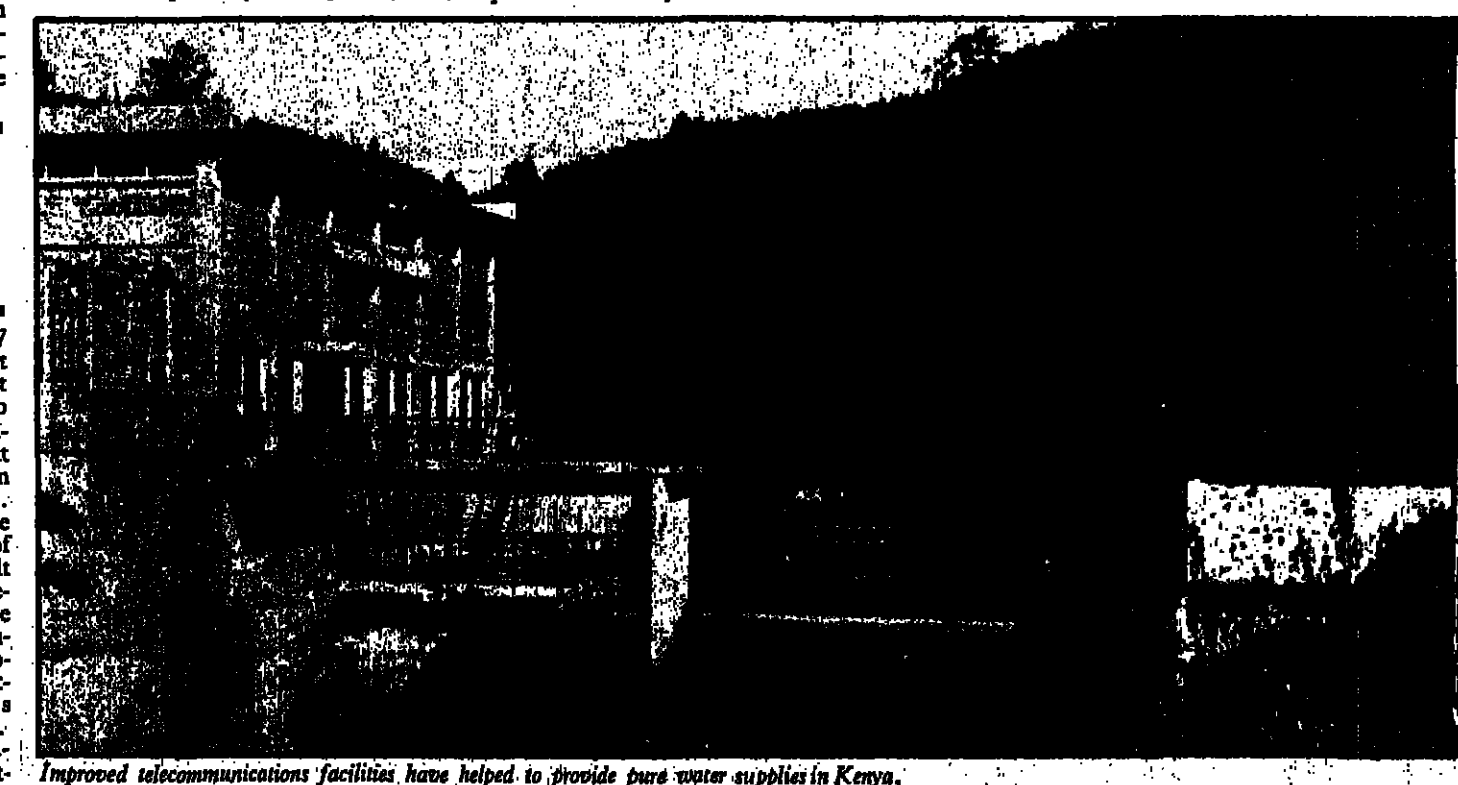


World's biggest network of micro retail outlets.

Franchise users are required to make an investment of £90,000. Royalties are 8% of turnover plus 1% for publicity.
Jean-Louis Couture, who set up the first Computerland shop in Paris four years ago, said: "I contacted Tandy before choosing Computerland, which had just set up its European headquarters in Luxembourg. I was the 96th shop."
Cebea has 15 shops in France and plans to open at least eight more before the end of this year.

entered for the Golden Antenna film award, and would be distributed through UK embassies and high commissions around the world. It lasts just under half an hour and cost £100,000 to make.
Its two main purposes are to underline the importance of telecommunications to the fabric of any country and to show the excellence of British technology — in other words, to persuade developing countries to buy telecommunications from the UK.
Maitland said that an important task that had to be fulfilled by the WCY campaign was to bring out novel ideas of how to finance the installation of telecommunications networks in the Third World.

The commission now has 17 members preparing for their first meeting in Geneva in October, just before Telecom 83. It is due to report to the union's administrative council by the end of next year, so that the council can act on its recommendations early in 1985.
One of its problems will be avoiding duplicating the work of other bodies such as the Brandt Commission on international development questions, the McBride Commission's study of communication problems and the Intergovernmental Bureau for Information, each of which involves different United Nations agencies.
"It is difficult to draw the dividing line between them," said Mait-



Improved telecommunications facilities have helped to provide pure water supplies in Kenya.

Alvey supremo Oakley casts his net to make big catches

George Black reports on the Alvey Programme's progress as it puts its thoughts on paper

THE Alvey Programme is to lean heavily on existing organisations in its effort to move quickly into gear.

This is the key point in the first interim report of the Alvey programme directors, the men in whose hands Britain's high technology future now rests.

The directorate published its first thoughts on how to tackle its great task last week in a document called *Alvey and after*. It comes just 10 weeks after Brian Oakley's appointment as team leader.

It is the first of a series of newsletters which are to be addressed to the British research community on the progress of the programme derived from John Alvey's report to the government.

The directors may also issue bulletins on developments overseas, to compare their performance, as well as specialist reports for sub-groups.

Oakley asks all organisations with which he will have to deal to choose a single spokesman, to try to simplify what is bound to become an ever-thickening web of messages.

In addition to the initial four categories of research — very large scale integrated circuits, software engineering, expert systems and the man-machine interface — Alvey will be organised under three other broad heads: computer-aided design for integrated circuits, deemed a separate category from VLSI; infra-structure for a communication network and mail-

Some smaller companies were still worried about their role, but they would get a chance to make a contribution of expertise in conjunction with the bigger firms

box service; and information dissemination. Oakley wants to hear which of these fields participants intend to get involved in.

Oakley heads a full-time directorate of eight people, most on secondment from industry at the expense of their firms. There is one appointment to be announced to head the man-machine interface. Supporting members will be appointed to help the eight.

The named members of the directorate to work alongside Oakley are: Laurence Clarke, deputy director of the Alvey Programme and director, Large Projects, from GEC; Derek Barber, director, Infrastructure and Communication, from Logica; Dr William Fawcett, director, VLSI and MoD liaison, Royal Signals and Radar Establishment, from MoD; Dr David Thomas, director, Intelligence Knowledge-based Systems (IKBS) and SERC liaison, from SERC; David Talbot, director, Software Engineering, from ICL; and Tim Walker, director, administration, from DoT.

Oakley also has a part-time steering committee which offers a wide range of experience. The steering committee, which will oversee the future direction of the programme, includes Thorne-EMI Information Technology chief executive Colin Southgate, who was head of British Oxygen's computing efforts before its sale to Thorn.

It also includes Philip Hughes, the chairman of one of the coun-

try's best known systems houses, Logica; Plessey technology director, Keith Warren; and British Leyland systems subsidiary managing director John Leighfield.

They will be assisted by Oakley's former SERC colleague Professor Eric Ash of University College, London; the European Nuclear Research Centre (CERN) manager Colin Fielding; and Roy Croft, a deputy secretary from the Trade and Industry Department's IT division.

Action plans for each sphere will be drawn up by working parties made up of experts from industry and the academic world. Invitations to submit proposals for work under specific sections of Alvey will then be issued. In some cases outline plans are far enough advanced for invitations to be issued shortly.

Unsolicited proposals will also be accepted for work under Alvey, but they must be in line with the main thrust of the programme. It is suggested that outline proposals be discussed with a member of the directorate at an early stage.

The directors are to delegate detailed administration of the programme to appropriate existing organisations, which will be supported by representatives from industry, universities and the three funding departments — Defence, Education (through SERC) and Industry and Trade.

Advisory committees will back up each technology under development, made up mainly of DoT and SERC members.

GEC's Laurence Clarke oversees the large projects, which he indicated would number between four and eight. They are due to start in mid-September. Clarke admitted there were signs that some smaller companies were still worried about their role, but he said they would get a chance to make a contribution of expertise in conjunction with the bigger firms. He believed there would be satisfactory codes and contracts to allay fears of giving secrets away.

He said there was a good acceptance of the collaborative spirit, making it less necessary for the directorate to act as broker than was foreseen. UK firms were also beginning to get involved in the complementary European Esprit project.

He stressed the need to get the project going quickly.

"I think there will be a second round when people see new possibilities from technologies which are now emerging. Some wonderful domestic product which now costs £5,000 could cost £100 in five years — we have to make a few at £5,000 and see how the market takes them."

Demonstration projects — or "demostrators" — will be launched to focus the research. Their aim is to provide services which did not previously exist, and it is expected demonstrators will cover applications in industry, defence, medicine and social services.

Most demonstrators probably will not materialise until the full five years are up, and may be preceded by prototype pilot projects. Teams for demonstrators will be formed immediately, and managed by a company well placed to market the final products, with sub-contracts going to several companies involved in various project technologies.

There will also be some smaller-scale demonstrators which may involve technology from other parts of the Alvey programme. In the VLSI area, the secrecy of

companies operating on the technology in the UK is seen as one reason why it should not suffer from delays.

ICL's David Talbot, who becomes software engineering director, will co-ordinate the many efforts already under way in software. It is a central challenge of the whole programme and one the directors clearly do not underestimate.

SERC's David Thomas, who is running expert systems, will get some senior technical experts to assist him. The SERC/DoT draft report *Intelligent knowledge-based systems: a programme for action in the UK* is likely to form the basis for work in Thomas' area. Universities have already begun forming a linked network of computers dedicated to IKBS research to which industrial computers will be linked.

Oakley again draws on his SERC background for the man-machine interface scheme and will build up Professor Brian Shackel's committee for the purpose.

There is an early insistence that collaboration must mean what it says: "Only in very exceptional

circumstances will a contract or grant be awarded to a single organisation". Oakley said the role of Marconi's Sir Robert Telford, who chairs the supervisory board, was proving crucial in convincing firms to co-operate.

In each consortium one firm has to take a lead and seek backing

circumstances will a contract or grant be awarded to a single organisation."

from a small number of others. The directorate hopes that in some cases user firms will be involved, particularly more in demonstrator projects.

Companies taking part in Alvey must demonstrate that they have research expertise, are willing to collaborate, and will exploit any new technology within the UK. Many small companies may not be able to afford a sizeable research spend, and in these cases Oakley expects that they will link up with universities.

Earlier this year NEDO — the government, unions and manage-

ment think-tank — responded to Alvey asserting there was an "unprecedented willingness to work together". Rascal's Geoffrey Lomer and Ferranti's Will Robinson were on the NEDO committee which made that observation.

Lomer commented: "One of the keys is separating the precompeti-

tion stages from the exploitation stages. The pattern of co-operation is better than it is perceived. We wouldn't expect the Alvey directors to have to act as marriage brokers."

Robinson said firms might be deterred by the 50% funding limit from tackling certain areas in which payback was unlikely to be immediate. "They could want 120% funding in those fields," he said.

Industrial firms qualify for 50% funding from Industry or Defence departments, whereas academic institutions can get 100% from the

Education Department or SERC — up to a ceiling of £200 million.

Robinson said the Alvey leaders were well aware of the need for a constant review of the funding. He thought there was a need to think about how to market end-products.

Where the work is predominantly academic, an industry "uncle" will be required to monitor it closely to ensure a practical outcome.

Logica's Derek Barber is to set up a network linking the main research centres, using British Telecom's PSS and the SERC's connection to universities.

The British network will be linked to that of Esprit. Al's search must be carried out in the UK and the results exploited, though European partners in a spirit may be invited to lead a team.

A standard information change agreement will be set up for all projects to safeguard participants' rights to share research data while remaining competitive in the market. But a consortium can make its own arrangements.

SOFTWARE FILE

GW-Basic to be sold via dealers

MICROSOFT is to sell its GW-Basic through dealers from October. The language has previously only been available through hardware manufacturers such as IBM and ACT.

GW-Basic is aimed mainly at program developers and runs on all machines supporting the MS-DOS operating system, including IBM's PC and ACT's Sirius.

BL opens in US

THE software division of British Leyland, BL Systems Limited, recently opened a sales and support office in Boston in the US to break into the US market with its simulation packages. Last week BL Systems won two orders totalling £1 million, including one from Birmingham City Council.

MCS hits Anvil

CALIFORNIAN CAD/CAM house MCS has implemented its Anvil-4000 draughting software, designed for 32-bit minis, on Data General's Desktop Generation.

The Anvil 3000D version will be sold as a turnkey product for the first time and is equally IBM-mainframe and Data General mini compatible.

Circle's Opus

BRITISH CICS specialist Circle Software of Gerrards Cross, Bucks, has introduced an electronic spreadsheet called Opus for IBM mainframe users. It uses VSAM files and can be installed on DOS/VSE hardware with minimal CICS modification. Development is under way of MVS and VM operating system versions.

Nixdorf models

GERMAN manufacturer Nixdorf has brought in a financial modelling system Nimos interfacing to its Comet accounting programs. The software is to run on Nixdorf's 8870 minis, aimed at small and medium-sized businesses and departments of larger corporations.

Shared data

US software house Computer Associates has added to its IBM/CMS range with a tape management family of programs called CA-DY-NAM/CMS. One program allows VM/CMS users to share tape catalogue information with OS and DOS users. The other improves VM/CMS file security through an automatic back-up.

Escape to Prime

IBM System 34 users are being invited to flee to the 32-bit compatible Prime 50 series, using a new software package called Escape 34 from Database Systems of Harpenden, Herts. Program author Paul Gillman claims that RPG-2 source code can be easily recompiled for Prime. New York bank Merrill Lynch is said to have "escaped" with this package.

CP/M for Olivetti

OLIVETTI is to put Digital Research's CP/M-86 operating system software on to its M20 microcomputer. The company denies any connection with criticisms and says it had always been intended to offer the Digital product. Work on development of CP/M is said to be continuing. Microsoft's MS-DOS is to be available soon.

Phenix to spread

SOFTWARE marketing company Sphinx is to distribute the Phenix accounting and business suite and 'Sibol' language compiler from Software Ireland, the DEC specialist, which has adapted them to run under Unix.

Full micro Ada is on its way

by Philip Hunter

A FULL version of the military language, Ada, could soon be available in the UK on 16-bit micros, following announcements of new products and developments by leading chip makers. But some Ada experts doubt whether micro versions of the language will prove useful, and the more likely immediate development is to use a larger machine to compile the language.

Zilog has produced an Ada compiler for its 58000 Unix-based system, which uses the 28000 16-bit chip, and this is now available in the UK on order for about £6,000.

Intel, which dominates the 16-bit processor market, has announced that it is developing compilers for hosting on the top of the range virtual memory iAPX286 16-bit chip and its 32-bit big brother the iAPX386.

The Intel compilers will produce code for the popular 16-bit 8086 processor. Intel expects later next year to announce a full working version of Ada using the 8086 as host and target.

Ada is difficult to implement on micro because of its size and the huge amount of main storage needed to compile programs in the language. Program development is normally split into two parts with a larger machine, often the Vax, being used as the host to compile programs.

The compiled object code can then be sent to a target machine, perhaps a 16-bit micro, for execution and debugging.

The same machine can be used as the host and the target, but with military applications, for which the language was developed by the US Department of Defence, there is a demand for small portable processors to run finished programs.

Zilog is aiming mainly at this military market with its compilers, which the company says are now being tested by the US Defence Department.

So far only the US specialist in military hardware, Rolm, has passed the department's stiff tests with a commercially available Ada compiler. But other compilers are queuing up for validation, including products from Western Digital and the French company, Alys, led by the inventor of the language Jean Ichbiah.

Peachtree bites at Apple

MSA's micro software subsidiary, Peachtree, is turning its attention to the Apple market with the takeover of the Viask range of accounting programs.

The move is being seen as a significant switch of emphasis for the hitherto IBM-oriented giant of the applications world.

Peachtree's UK managing director, John Hale, agreed that it was late in the day to be aiming at Apple II users, but pointed out that many of these would soon be upgrading to Lisa and Lisa-like Apple products.

It is also hinted that MSA could be extending its IBM mainframe-personal computer connection, Peachtree, to Apple machinery.

Peachtree has bought the Viask Apple range — not the firm, Viask Computer Systems, of High Wycombe, Bucks — for an undisclosed sum. The programs, developed by Paul Viask's small team in 1981, have sold more than 5,000 copies. Four of the company's support staff will be joining Peachtree.

Apple's Lisa development team

Software File is compiled by George Black

Future is in UK to fight rivals

FUTURE Software arrived in Britain last week to try to undercut its rivals in IBM CICS applications programming aids.

Based in Utah and now with an office in North London, Future held seminars in London, Birmingham and York to introduce potential customers to its system.

The guest list of data processing bosses was impressive: for example, in London Segas, Pirelli and British Telecom; in Birmingham Harvey's and the Export Credit Guarantee Department; in York Pilkington and Rowntree Macintosh.

Meanwhile a cloud hangs over the product they were all discussing, Software Generation Technology. Future bought marketing rights from SGT Corp, limited by

a clause fixing minimum sales. But Panosaphic also did a deal with SGT for its code and Future filed a lawsuit against both of them, seeking \$115 million damages.

Last month a US judge dismissed Panosaphic's claim that there was no case to answer and the action is scheduled to go ahead.

Interested parties thus have a quandary which Utah State summed up: "SGT offers the highest risk with the highest potential benefits." Utah opted to risk it.

Where Future and Panosaphic agree is that SGT is a hot property. SGT president Robert Adamson is said to have received \$2½ million cash, plus \$2½ million royalties for the system from Panosaphic.

Future's president, Bob Wall,



WALL... Touts SGT as a "Cobol replacement".

told the seminar the proof of its worth was that IBM itself adopted it for internal use at its New York credit branch rather than use its own software.

Wall touts SGT as a "Cobol replacement", emphasising that few CICS houses have so far chosen any tool.

For instance insurance firms,

such as Abbey Life, which were early systems pioneers, have been content to stick with Cobol and let others learn the lessons.

Wall pulled no punches in his address, hammering particularly Oxford Software's UFO, the field leader, and Cincom's popular Mantis, especially on the subjects of interfacing and compilation.

Especially for Unix based Systems

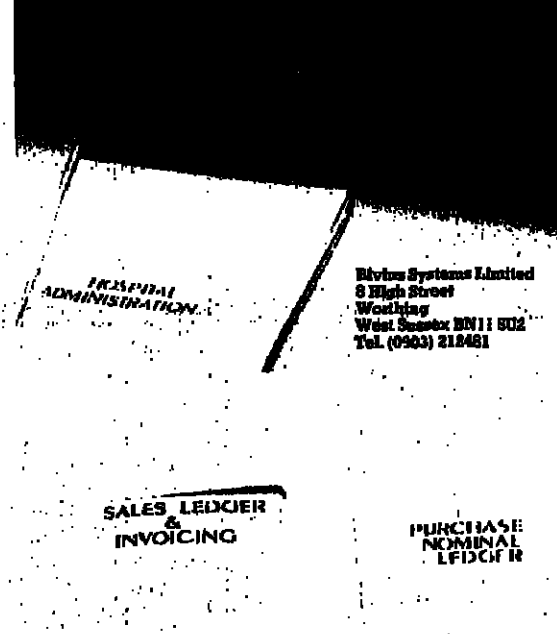
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PROFILE

A year off—to get back to the start

NUT every day does a successful marketing manager of a major minicomputer manufacturer announce that he is to take a sabbatical year off, and then move out of the computer industry.

Richard Norton, marketing director of Norwegian company Norsk Data UK has done just that. He hankers after the excitement of pioneering and starting up a new company—but not in computing.

"The computer industry is oversubscribed," he explained.

by John Riley

"Starting from scratch in computing now is much harder than it used to be. Although computing is still at a primitive stage, it is not as primitive as 15 years ago.

"Of course start-ups are still possible—Sord has shown that—but it is getting more like other industries. For example, it wouldn't be possible to make a production model car from scratch quickly any more, although you could in specialised areas, such as making a new Formula 1 racing car."

That is why Norton is taking a year off to study the potential for start-up companies in fields that are at the stage computing was at 15 years ago. Areas he will be looking at in particular are biotechnology and leisure; but he insists he is keeping an open mind.

Norton has three start-ups already under his belt. "The first was a disaster," he said; "but I learnt a lot from it. The second

was successful, but was taken over." The third, set up in 1977, was an independent distributing company selling Norsk Data equipment. By 1980 it had a turnover of £1.3 million and was bought up by Norsk Data, and formed the core of Norsk Data UK.

"It is the stage between anarchy and professionalism that appeals to me," Norton explained. "In the first phase of business you get the chance to do things as you think they should be done without inhibitions. After that it is more a question of polishing and polishing."

Norton is taking a year off so that he can plan his next move. He puts heavy emphasis on planning. "Planning is the important thing and it must be top notch to succeed," he said. "The computer industry is easier than most, as everyone can succeed by thinking and doing. The only computer firms that have gone wrong are those that have not thought out what they should be doing."

Working with Norsk Data has been a challenge for Norton. So far he has sold over £2 million worth of ND 32-bit superminis to the Joint European Torus (JET) nuclear fusion project based in Abingdon. "We tackle impossible jobs," he said, "especially high value projects where obtaining results is more important than cost."

For Norton, cost is not the most important criterion for machines. "Some companies concentrate on the cheapness of their products,"



NORTON... "The computer industry is oversubscribed."

he said, "but we put ourselves across as European suppliers who are not necessarily cheap, but good. Customers prefer to pay more if performance can be guaranteed. The proof of that is the state of the secondhand computer market. There are a lot of secondhand machines about, but virtually valueless—nobody wants them."

Norton regards Norsk's main rivals as Digital Equipment— "for the quantity of machines", and Prime—"for its involvement in engineering". But he has no worries about US marketing taking away business. "It is the product that is important. If you have a good technical design you will win through. Norsk Data's research and development staff are

loyal and as we have a common operating system, they are working and re-working on the computer development continually as one group."

Before starting up a new company Norton intends to travel round the world exploring possibilities and to plan ahead thoroughly. He will also go on business courses. But the first thing he intends to do when he leaves Norsk Data is to take a holiday in Norway.

His final comment on computers was "Computers don't do what people want them to do yet, do they? They are a basket of frustration as people are always on the edge of the impossible in their expectations."

PLATFORM

This Platform is based on a speech by Bill Read, Sperry vice-president and general manager, computer systems operations, at a recent seminar

'By 1990 there will be no national computers'

BETWEEN now and 1990 the computer industry will change in a number of ways. It will become recognised that there really is no such thing as a national computer.

The computer might be assembled by a company whose equity is 100% owned by a given government or within a country, but the hardware will be international with components from at least two or three countries being incorporated in the system.

This means that the "Buy British" and "Buy French" exhortations will be even more open to question than today because, certainly as far as the hardware is concerned, the national content will be minimal.

We will clearly see further growth of the Japanese encroachment. We talk about it today, we see it happening; but in the period I am referring to it will be highly developed. We may well see a situation where virtually all RAM chips come from Japan, with odd exceptions such as the UK government-backed Immos venture.

Essentially, the trend in hardware will be to various forms of licensing agreements, with the US and the Japanese the main providers of hardware.

Obviously, indigenous suppliers will try to put in a quota of locally produced components. But there is little doubt that the vast majority of hardware will be manufactured by American or Japanese companies.

To emphasise this hardware trend, I think the position will be that, regardless of whether the device is a low-cost, chip-based terminal or a major manufacturer's mainframe, it will contain a much larger proportion of internationally made elements than hitherto.

Therefore, vendors, including The Americans and Japanese, will have a major fully localised—that is one country made—hardware product series.

I have always forecast that the minicomputer was in for a bad time, that it would be the marginalised between the mainframe and the micro. There is little doubt this is happening. We have already seen the beginnings, and, by the end of the decade that the traditional mini that we knew five years ago will be dead as a commercial DP box.

Another important trend in our industry is that instead of providing only the hardware and its operating system, manufacturers now aim to market a wide range of applications and similar software as well.

The traditional mini suppliers who sell low-cost, high performance hardware with substantial discounts to third parties or software houses, now realise that they can no longer be involved with such discounting.

These mini suppliers are beginning to realise that their future is in the sale of applications programs and allied software. We all forecast that the revenues produced from hardware would go down. However, I do not think that many people realised how necessary it would be to boost revenue by means of software and



ComputerWeekly

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

Thursday, August 4, 1983

Communications? We can't hear

THE UK's backing of World Communications Year (WCY) looks less than wholehearted.

A half-hour film launched last week is proudly proclaimed as a substantial part of the effort that the UK is directing towards the outside world during the campaign.

And the Year's UK committee chairman Sir Donald Maitland went as far as to point out that the UK had anticipated World Communications Year by designating 1982 Information Technology Year.

Yet, having started the year with the IT Year campaign mechanism still in place, the campaign has had almost no visible impact.

When the United Nations General Assembly announced the designation in 1981, officials pointed out that there were currently 40,000,000 people dying every year of starvation. This was more than the numbers killed in all the atrocities ever committed by human beings on each other since history began.

Telecommunications could make these deaths preventable, the officials said. Perhaps this claim has overwhelmed us because, according to the Department of Trade and Industry, Communications Year activities in other countries have been even fewer than the barely visible UK ones.

Of the 60 UK companies planning to exhibit at Telecom 83 in Geneva, only a handful appear to have shown any interest in the WCY campaign. The main activities have been training for engineers from developing countries and lending equipment for display in the WCY Communicator and in the DoTI's two mobile display booths.

When the UK programme was announced in January, its two main objectives were said to be to reinforce public awareness of communications needs and possibilities and to investigate new ways of transferring resources from the UK to developing countries with the maximum benefit to both sides.

It seems that public awareness has still to be reinforced and ways of transferring resources have still to be found.

As one DoTI official said, production of the film was justified on the grounds that it was promotional material that would benefit UK industry. It was easy to criticise the UK contribution to the campaign, he added, but a great deal had been done on a very small budget.

The question is, why was the budget so small? Does nobody outside the UN General Assembly believe in the value of telecommunications to anyone other than telecommunications equipment suppliers?

Help the micro men

IT is no wonder that the European Economic Community leaves many people cold. While the conception of the community can hardly be faulted, the execution on so many vital issues makes one wonder if the whole enterprise is worth it.

The latest clarion cry comes from the British Microcomputer Manufacturers Group, which is threatening to take its manufacturing capacity overseas unless there is a relaxation of the EEC tariff on component parts.

Duty rates on component parts are 17%, while typical rates on imported systems and sub-assemblies are only 6.5% to 7%. The result is that one of the UK's more successful industries could move its assembly plants offshore.

The BMMG, which last year put its foot in its mouth with a call for a 12-month ban on US and Japanese imports of micros, has now latched on to an issue of real substance. At a meeting with Information Technology Minister Kenneth Baker, the BMMG had a sympathetic hearing. But there is a general feeling of gloom among UK micro manufacturers when they talk of an early solution to the problem.

The government already has its hands full in its current negotiations with the EEC. It is feared that the call by the micro companies for immediate action on component duties will not find itself high on the list of ministerial priorities.

It should. The UK's manufacturing is decreasing. Although there are those that would argue that it is a natural development, it is a far from proven theory.

The message is clear. Will the government do more than listen?

1984 and all that...

THIS week's example of the strange things people say about computers was sent in by Philip Dobson, of London, who wins £5. Although computers are now a familiar aspect of our daily lives we still view their power with alarm... we fear that one day these silent but awesome machines might one day take us over completely.

LETTERS

The Europeans should listen

IN your editorial (*Computer Weekly*, July 21) some interesting facts were stated. One country, Japan, has captured 40% of the world market in the field of microprocessors. A group of countries (probably containing some of the best brains in the world), that being Europe, not only manages to spend twice as much, but secures 30% less market share.

Perhaps the fundamental laws of

marketing and sales should be looked at. A superb example is the automobile industry, of course. The Japanese have been supplying what the market wants, not what they want to supply. There is a difference. It is very basic and all about supply and demand. Identify the market and produce products that will be welcomed in that market. Then, with the energy that the Japanese apply, go out and sell it!

Until the European computer industry recognises the facts and actually does something about the situation, in 15 years time your editorial (probably by that time available at home on a Japanese micro) will report a far worse picture; if that is possible.

SIMON LEVER

Recruitment Partners
The Hague.

Reminder of real users' needs

THANK you for an excellent article (*Computer Weekly*, July 21) by John Lamb. It raises the point to me that many people "in the trade" get too close to their speciality.

His points about direct savings, straight replacements, easy to measure projects and the Office of the Present struck home.

I also like his acceptance of a piecemeal approach.

It struck me that I needed more often to be reminded to stand on a hill to see how the battle was going. Keeping your head down

creates a mole-like attitude. Could we have more short articles on this level please, to remind me about real users' needs?

On the other hand, I know little about other people's specialities. Most companies have enough difficulties sending staff on job related training schemes, let alone justifying excursions into someone else's patch. Hence we lose touch unless we assiduously read articles by an expert for others.

Is there any way that, say, a training group could review the present state in a field once a

month, so that the computer specialist could read about other fields that just may colour his, or his user's world?

The computer will spread into all walks of enterprise and we who are assumed to have superior knowledge need at least to be one page ahead. The true expert may feel obliged to write to you concerning a heinous misunderstanding which must be corrected from his specialised knowledge.

H. McDOUGALL

Newburgh
Wigan.

The Editor welcomes letters commenting on subjects published in *Computer Weekly*, or on original topics. All letters must be accompanied by the writer's name and address, not necessarily for publication.

Poplog is well

READERS of Dr Bailey's letter (*Computer Weekly*, July 14) may be as puzzled as I was at his reference to "Surrey's Poplog".

The Sussex University Poplog system on which you have kindly reported in the past is alive and well.

The problem of excessive garbage collection in Prolog has been solved. We expect shortly to complete arrangements for Systems Designers Ltd to take over marketing and maintenance.

DR AARON SLOMAN
Cognitive Studies Programme
University of Sussex.

Missing zero

WHILE it was very interesting to read your slot in *Micro News* on the Alpha Micro (*Computer Weekly*, July 21) there was unfortunately an error which spoiled the whole article. The new Alpha Micro series is based on the Motorola 68000 not the 6800, a vast difference in speed, size and technology.

DEBORAH L. COSTIN

Systems Advisor/Programmer
Sweetens Computer Services
Preston.

68000 was in the original copy, but a nought was dropped at the printer. Sorry.

DOWNTIME

In a class of its own

GREAT Useless Ideas come in all shapes and sizes and IBM's artificial intelligence program, currently under way at its Yorktown Heights research labs, has produced a real cracker.

The boffins of the world's leading consumer of blue paint have come up with a program which can recognise the user's social class.

Called Epistle (Evaluation, Preparation, and Interpretation) System for Text and Language Entities—the acronym division must have worked overtime on that one), the program can evaluate a letter, document or memo and analyse the writing style, syntax and construction.

IBM's excuse for the de-

velopment of this wonderment is to highlight what it deems to be "inappropriate style" in reports prepared by its managers (probably a reference to white shirts and plain ties), but points out that the system can also be used to determine the social origins, politeness(!) and character of the writer.

And the little beastie can go further. Its developers claim it will eventually be able to deduce the intelligence, assertiveness and refinement of the writer, plus his/her sex and age.

This would be of great benefit to us here at *Computer Weekly*. On receiving yet another letter signed J. Smith, we would be able to discover its sex, sexual proclivities, bank balance and vital statistics.

What's in a name?

DOWN at the Department of Trade and Industry (DoTI) to the rest of us but for some reason they prefer DTI they take these things seriously.

And when it came to picking a name for the UK's grand scheme to pip the Japanese at the post and get the country back into the top end of computer development, there was some scratching of heads before the plain-stripe brigade settled on what the rest of the

world was already calling it, "The Alvey Programme".

So much has this caught on that British Telecom's John Alvey, who wrote last year's report which started the ball rolling, was heard to say about some Buzby development: "We should get some money from Alvey for this."

How long before Alvey Programme supreme Brian Oakley becomes known as "Mr Alvey" just to confuse the issue a little more?



"Surely there's more to life than being the very stuff of which computerised mailing lists are made."

Exclusive story

COMPUTERISED mailing lists are an abomination. I have received a missive from Scotcade, the mail order lot.

Printed in simulated handwriting on the envelope is the legend: "Yours Exclusively."

On the address label is a number with seven digits.

Scotcade has obviously unearthed some new meaning of the word "exclusive" which has, up to now, escaped my notice.

Fast buck invention

LET'S hear it for computer entrepreneur Pat McNulty. The Pittsburgh inventor has a vision: metered computer terminals in hotel lobbies, airport waiting rooms, and other public places.

McNulty, the fast-talking good-natured head of Pittsburgh computer consultancy Data and Research Technology Corp, proposes to attach standard computer terminals to vending mechanisms which will accept a dollar or \$5 bill. A dollar will buy three minutes of time on any computer network to which the user has a subscription

—and \$5 will buy 15 minutes.

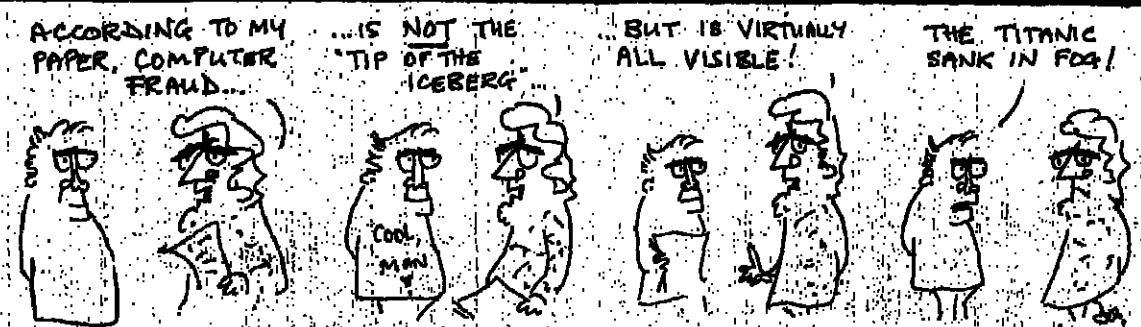
With increasing numbers of US hostels contemplating installing terminals in their rooms, how does McNulty figure to make any money?

Easy. "Say you're in a bar in a hotel and you suddenly want to make a phone call—do you go up to your room to use the phone?" McNulty asked *Computer Weekly* rhetorically. "No, I'll be the same if you want to check your electronic mail—you'll do it at the bar."

Chad

Liveware

by Don



10 YEARS AGO

FROM *COMPUTER WEEKLY* OF AUGUST 2, 1973: A report in the National Electronics Review urged a government "Buy British" policy wherever possible... A new disc subsystem with a capacity of 200 megabytes per drive was announced by IBM... An official IBM press release said that the company had been given 100 million shares on the London Stock Exchange... profits of \$42 million were announced by Burroughs.



For more information return this coupon to Ian Hardman, Peripherals '84, Room L216, Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS.

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Super power comes to two university centres

BRITISH university computer users will soon have access to a pair of the world's leading supercomputers, as a £16 million plan to re-equip the UK's two regional computer centres nears completion. The University of London Com-

puter Centre (ULCC) which mainly serves universities and teaching hospitals in the south, has just installed a Cray. And the University of Manchester Regional Computer Centre will shortly install a Control Data Cyber 205, the

only credible rival to the Cray. The two centres were set up in 1966 following the Flowers Report recommending three powerful regional centres of computing for universities. London was to serve the south, Manchester the north and Edinburgh, Scotland.

Edinburgh has remained a regional centre with a range of smaller machines concentrating on interactive computing. But both Manchester and London have spread their load and now cover the whole country between them.

Universities have their own computers, and tune in to the big centres to solve the large mathematical problems that crop up in such things as meteorology and high energy physics.

The two big regional computing centres now overlap in their coverage, and some universities - Oxford for instance - already have access to both. Part of the £16 million re-equipment plan involves networking, with the aim of producing a single academic network based on the Open Systems Interconnection model, with packet switching.

Richard Field, director of ULCC, says the networking development is well underway and should be finished next year or early in 1985. Then individual universities will be able to link up together.

"We will set as a switching centre for people who want to go to the Distributed Array Processor (made by ICL) at Queen Mary College, for example," says Field.

There will be trunk routes linking the big centres, like London and Manchester, and smaller lines joining other universities. Aberystwyth and East Anglia will

not often want to join hands, points out Field. London and Manchester each put up proposals for new equipment, but came up with different conclusions. Manchester decided to stay with Control Data hardware, buying the new Cyber 205 super computer, and keeping the two existing 7600 mainframes in support.

"Our plan was to flush through with a new set," says Field. The only real disadvantage of this was inconvenience to existing users, who had existing software packages written for Control Data hardware.

But, as Field points out, Cray computers were designed by Seymour Cray, who used to work for Control Data. The two makes of supercomputer have more similarities than differences, and the two operating systems are quite alike.

A bigger problem was posed by the choice of an Amdahl 470 V8 to act as a front-end support processor to the Cray at ULCC. This machine was designed by Gene Amdahl.

The operating system is therefore quite like IBM's and has forced some users to do hefty rewriting for the smaller problems that do not justify use of the Cray.

Field says that since Cray only has two ranges of supercomputer in its hardware arsenal, it has designed the machines to run medium-sized as well as large programs.

The main software running on the Cray at ULCC is the NAG library of mathematical Fortran programs, which has been adapted to take advantage of the vector processing available on the machine.



FIELD... Flushed through ULCC with new hardware.

Cobol users' views invited

Cobol users have been invited to comment on the new draft standard for the language prepared by ANSI, the American National Standards Institute. The standard was released in February in response to over 2,000 comments on the previous draft circulated to the Cobol public in September 1981.

The main result of these comments has been to reinstate some traditional features of the language that were due to be deleted from the new standard. One such feature is the ALTER verb, which

some diehards wished to preserve, but use of which is forbidden by most Cobol installations.

Most Cobol experts think it should have been dropped from the language long ago.

According to Vony Gwillim, a senior consultant at the National Computing Centre, the ANSI decision to try and reinstate such obsolete features is "put down to a Luddite member of US company Travellers Insurance. This person is also a member of ANSI, and has led a strong protest group against

any changes to the language.

This means that progress will be delayed all the more, says Gwillim.

"So much in the new proposed standard is necessary to what we do nowadays," she adds.

In particular structured programmers' facilities have been introduced to the new standard.

But advanced new features like the VALIDATE verb cleared by Codasyl, the international body that develops Cobol standards, will take years to filter through into the final standard.

And as for screen management proposals, says Gwillim, these could take 10 years to receive ANSI clearance.

Many manufacturers are already implementing screen management facilities with Cobol compilers. "It makes you wonder why we bother," says Gwillim.

But there is one piece of good news for Gwillim. From this September she will be UK secretary for the Codasyl group. "This will mean more liaison between the UK and US," she says.

BSI gives ICL's Pascal compiler top marks

ICL has released the first UK Pascal compiler to pass a new international standard for the language. The compiler, now available for between £600 and £800, is expected to replace the company's existing version which was developed at Southampton University.

The British Standards Institute (BSI) awarded the compiler a class A certificate, when it won "top marks" in a test suite of 644 programs. Users of the new compiler can rely on the quality of error messages as well as implementation of advanced features of the language like array handling.

There will also be a better chance that programs developed on the compiler will run on other machines as the new standard catches on.

Three versions of the compiler are available. Level zero supports the basic standard set by BSI, the International Standards Institute, while Level One supports more

advanced ISO features like conformant array handling.

The most powerful version of the compiler supports various ICL extensions to the language such as the ability to use number bases other than 10, and advanced file linkage facilities.

In the US Western Digital is fast cashing in on its advanced Ada compiler which looks a good tip to become the second after Rome's to be granted a full standard by ANSI, the American National Standards Institute.

The compiler has been chosen by US computer maker TRW as the base for a software development system on its range of military hardware. Western Digital last month announced a tie-up with micro maker Digicom Research to put the compiler on to the Delphi micro.

TRW's project manager Barry de Roze says the compiler will enable his programmers to experiment with the language.



"It's no good. They're programmed in code that's hard to find if you try to discover their architecture."



TROTT... Quality of service depends on number of users.

Enter stage left - a system to settle actors' fees

TV COMPANIES and advertising agencies will soon have a computer solution to the growing problem of paying freelance actors, camera crew and musicians.

IDC Services, the US data processing specialist in the entertainment industry, is setting up a UK subsidiary which will open a London timesharing bureau this autumn.

The bureau will provide a central clearing house for payments to freelance actors employed for films, documentaries or commercials.

The ITV company TV South is set to sign the first contract for the new bureau service.

Some TV companies and advertising agencies already have their own in-house computer to handle payments to people known in the industry as "talent staff". But these systems have proved hard to maintain because of the maze of different pay rates which also frequently change, and the headache of keeping track of repeat fees, payable when a film is given a second run by a different television company.

The problem is well suited to a bureau solution. The advantage is in keeping a central database of performance records. But the success of the bureau depends largely on how many TV companies, advertising agencies and film-makers take up the service.

The more people use the bureau, the better the service becomes, explains Bob Trott, IDC

programming and operations manager.

When making a programme, a TV company might begin by hiring the "talent". Then the programme is produced, transmitted and repeated, and the TV company supplies relevant data on the people involved and the time taken to the bureau, which then issues invoices to the appropriate contractor, often the TV company itself.

The bureau also makes payments, and supplies information to both the film or TV company, and the union representing the actors. The bureau could also be a separate agency - except that the union is more complicated because it might also be a separate agency to produce the commercial, and as the TV company from the agency buys time.

The bureau will later be extended into a full accounting system to record costs and payments with payroll information. This will allow future remaining production costs and payments for re-runs.

Fees for re-runs of commercials are now causing problems for Equity, the actors' union, Channel 4.

Later, the system will tend to include information on the "talent". This will be the cost of future production, be estimated by adding costs of the individual people involved.

Workplace is compiled by Philip Hunter

PUZZLER



THIS clever route problem from Japan. The task is to find the shortest path from the complete "reluctant" just one continuous line taking your pencil off the line twice (you may be visited twice). Only one line is possible, so the problem comes to finding it. See page 51 for solution.

EDUCATION AND TRAINING

Estimates put the shortage of skilled staff at 40,000. David Casey asked Sir Keith Joseph what he was doing about it

Why is it still so hard to find skilled computer staff?

THE biggest problem facing the UK's computer industry is shortage of people. Small and large companies all confess to the difficulties of finding and hiring the skilled staff that they need.

The last authoritative study of the shortage of "computer skilled people" was made in 1980 by the National Economic Development Office. It reported that the UK was 23,000 short of the trained people that it needed: 16,000 programmers and analysts and 7,000 engineers. And the report predicted that the shortages would increase.

Current estimates of the shortage of programmers and analysts alone run to as high as 40,000.

Hard figures are difficult to come by, but there is little doubt that the shortage of staff has increased since 1980 in spite of the recession and of government efforts through the Manpower Services Commission, the University Grants Committee and the computer services industry training board to train larger numbers of people in computer skills.

David Casey interviewed Sir Keith Joseph, Secretary of State for Education and Science, and the Cabinet Minister responsible for the country's efforts to provide the people to build its computer industry.

The government has not been slow to recognise the long term potential of computing in schools. A scheme funded by the Department of Trade and Industry, for example, is ensuring that schools have access to microcomputers.

Reports from the Educational Broadcasting Council indicate that there were an average of three micros in every secondary school last December; a figure which has now risen to 4.3 units.

As formulator of educational policy, the Department of Education and Science has the ultimate responsibility for ensuring that there is a sufficient flow of technical talent from secondary schools into further and higher education.

The department's Microprocessor Education Programme - now into its third year - has the onus of training teaching staff and advisors.

To date, 20,000 "front line" teachers have passed through the scheme's net, with budgets agreed for a further 10,000 to be trained in this financial year.

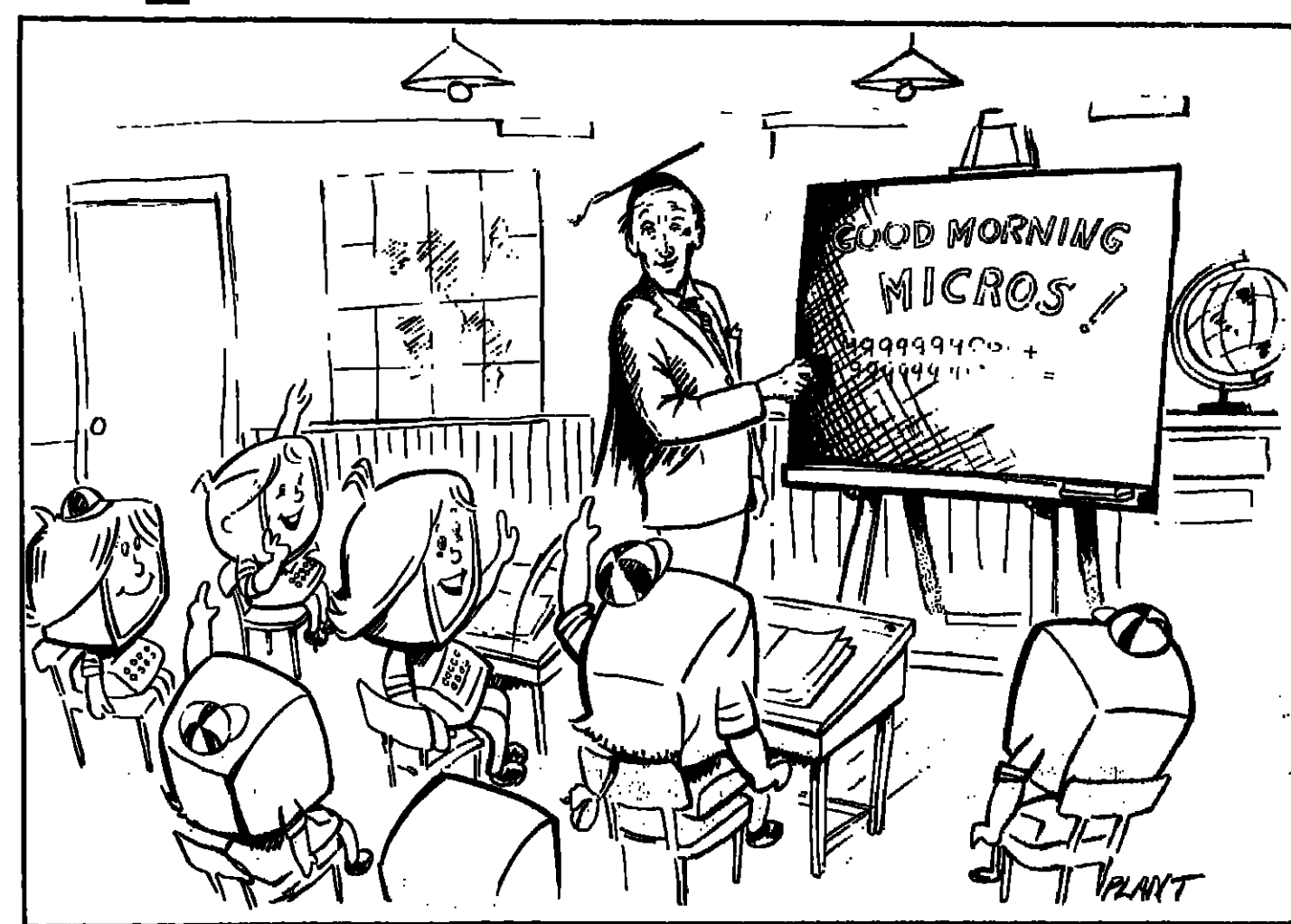
Sir Keith Joseph, Secretary of State for Education and Science, accepted that there is still a long way to go in the schools sector. "The Microprocessor Education Programme has already proved a stimulus to teachers," he said, "and there is a great deal of spontaneous pursuit of knowledge on their part."

"Some of the extra places we are providing in higher education for computer specialists will be taken up by those proposing to teach and will therefore help overcome the shortage of qualified staff in that field."

The traditional route into school teaching has been from training college and university. Irrespective of the academic merits of the people who are "called" to the profession, their industrial or commercial experience is noticeable by its absence.

An injection of teachers from the real world, outside education, could add an extra dimension to classroom courses in physics, mathematics and business studies - all subjects important for the development of high technology.

Sir Keith recognises the value of teachers switching from a career in industry or the professions, but prefers to let market forces take



their course.

"As redundancy increases, more staff with the right kind of background will move into schoolteaching. We do not feel the need at the moment for a scheme to select potential teachers from industry," he said.

The secretary school certainly has a seminal role in preparing young people for a future in technology. But it is the higher education sector that must take the strain of education and training in the subject, at a time when these establishments are now into their second round of expenditure cuts.

The University Grants Committee (UGC) is a buffer between the Department of Education and Science (DES) and university funding.

However, the decisions taken by the UGC from time to time may not be in line with the government's own plans for stimulating the growth of high technology.

Speculation about the future of university finance is rife. Centralised control by the DES is one possibility being mooted by academics keen to maintain funding for high technology projects.

The setting up of a single paymaster authority to encompass both universities and polytechnics is another prospect being viewed with disquiet in senior common rooms, an undignified scrap between the theoretical and applied disciplines for a share of the available finance could not be avoided.

The Secretary of State is unaware of any developments that would radically change the present system of funding. "I am certainly not conscious of any such ideas," he said.

"For 60 years now, successive ministers have valued the UGC as a means of distributing the taxpayer's money so that the politicians

and higher education can be kept apart. There is no thought of bringing that buffer to an end."

Sir Keith Joseph illustrated how this philosophy has been extended to other sectors of education: "In the polytechnic world, we have the local authorities to act as the buffer. What we have done there is to create, through the National Advisory Body, a mechanism equivalent to the UGC for appraisal and judgment."

While a university finance authority is likely to remain, changes can be expected in the funding arrangements of the establishments under its control.

Sir Keith outlined the government's intentions: "We openly aspire to increase the diversity and the freedom and the decentralisation of these institutions if we could find ways of doing it."

"We would like, for example, the universities to become less de-

pendent on the taxpayer and therefore less dependent on the UGC."

One method of generating independent finance would be for the universities to undertake the major part of central government research as a commercial contractor.

Sir Keith said this as just one option in a broader strategy.

"Without being romantic about what is possible, there are ways in which this aim could be realised to a greater or lesser extent. I would certainly like to move in that direction, however."

"I would not imagine that uni-

"We would like to encourage the universities to take a broader approach, so that we do not have a generation of scientists who lack foreign languages or humanities."

versity funding could be removed dramatically from the taxpayer, but some reduction in this support, coupled with a measure of independence, is conceivable."

The groups within higher education that could adapt most easily to "commercial" funding are the technology-based universities, the majority of which were converted in the 1960s from Colleges of Advanced Technology.

For these establishments, more extensive funding from industrial research would have to play a major part in their survival. During the past two years, staffing levels have been reduced and departments have been forced to restrict their intake of science and engineering students. They are under extreme pressure to maintain academic standards and could therefore have to curtail some of their activities.

Sir Keith does not see it in the

"That suggests that financial independence is no bad thing!"

In a well-balanced educational system, it is accepted that even the more esoteric arts and social science courses have a valid role. During a period of economic restraint, however, it becomes increasingly difficult to justify resources being committed to those fringe directions.

If the UGC is to retain its freedom of choice, future Secretaries of State at the DES will not be able to influence the channelling of funds where demand is greatest.

Sir Keith does not believe that action on this scale would be appropriate and suggests that a more subtle approach can have the required results.

"Universities are not there to serve the wealth and job creating mechanisms of society. Their objective is to increase and transmit learning, as well as serving the market."

"I would not want to truncate that respected and honourable part of their function."

Sir Keith is insistent, however, that the universities maintain their standards in whatever courses they pursue. "Having said that, the government has asked the UGC to shift resources marginally in favour of science, technology, engineering places."

"It is true that we would like to encourage the universities to take a broader approach, so that we do not have a generation of scientists who lack foreign languages or humanities - and vice versa. This might involve some minor adjustment to the A-level system."

If the fine-tuning envisaged by Sir Keith can be implemented, there is the real prospect of an education sector that is lean enough and has the flexibility to meet the demands of the '80s.



JOSEPH... Has the ultimate responsibility



Imperial College's computer science head tells David Casey of his 'disillusionment' with industry

Dedicated academics are the root of success

COMPETITION for the 80 computer science places at Imperial College, London, is intense, with between 700 and 800 applicants for the three-year college-based courses. A graduate conversion programme attracts further interest from a wide variety of experienced candidates in other disciplines.

With a surplus of candidates, Imperial is traditionally able to select the finest talent — a situation which could potentially lead to academic study of a high standard, yet lacking relevance to the real world.

Professor Manny Lehman is the head of the computer science department at Imperial. He maintains that the purpose of the courses there is to educate computer scientists for a positive role in industry — an objective reflected in his new software engineering course.

"We recognised two or three years ago — before the Alvey Committee reported — that software technology would be the key discipline in the future. The department immediately laid the foundation for a four-year course awarding a B.Eng in software engineering, claimed to be the first in the world. The course begins in the new academic year with a transfer of 10 students from the current computing science course, with graduation in 1986. Lehman outlined the implications

of the new programme. "The price of setting up the new degree is a reduction in the size of the computing science intake. The places that should be given up are in esoteric subjects like Sanskrit. In practice, however, neither the government nor the University Grants Committee (UGC) — not even the college administration — will make those judgments. They say that supply and demand will cause a shift in due course."

According to the professor, there will be serious consequences if the government does not provide the funds through the UGC for the specialist software engineering course. Since three-quarters of the

The purposes of courses is to educate computer scientists for a possible role in industry

students applying to switch courses are from overseas, he sees the College exporting software engineers.

"The government must fund the extra places to remain consistent with the Alvey recommendations. While more software places are to be bid for by the universities, we are not sure whether those awarding them are aware of the importance of undergraduate teaching.

If that is not recognised, we will have to cut the number of computing science places."

To Lehman and his colleagues at Imperial, the government's IT initiative has been something of a Curate's Egg. On the positive side, they gained three posts (one in research, two for teaching), and a total of 20 students.

"It has created the situation where a few institutions will increase the strength of their IT staff by weakening others."

Professor Lehman sees the difficulty again as one of finance. "There are insufficient staff to go round, and salaries are such that we cannot draw people from industry — the real objective of the IT initiative. The government has restricted pay increases to 4.6%, with university salaries actually lower than in polytechnics."

The IT scheme is seen as having made an important contribution, but it has failed to look at the roots of the problem. "While blaming industry for being short-sighted, the government has the responsibility to think long term," was the professor's view.

He maintains that the issues at stake are not going to affect an election result, so the government can afford to take decisions that will boost investment in vital academic disciplines.

"Industry is getting the lion's share of the money, while universities could do a lot more with a smaller investment."

Lehman believes that the government has failed to recognise that any success achieved in the



IMPERIAL COLLEGE... Competition is intense.

UK will depend on those academics who are dedicated to providing a strong industrial technological base. "The rigid salary structure that has been imposed on universities takes away any chance of rewarding competence or penalising incompetence."

The computer science department at Imperial College is not funded in line with other science and technology departments. For the past two or three years, the unit has received a significant increase in its funding at a time when other departments have been static or had their allowance reduced. But that still leaves Lehman's operation 25% below par.

Until recently, he was working with a student ratio of 13:1, compared with an average for the college of 7.5:1. This year, the IT scheme and extra money from the college have helped bring the figure down to 10:1; still the highest pupil-teacher ratio in Imperial.

With closer ties between industry and university as a means of overcoming cuts in public funding, does the professor see any potential in that direction?

"I am utterly disillusioned by industry. The only interest from that sector is for their short-term benefit, with shareholders' interests to be taken into account. There is no wider view of what is required by the country in years to come, however," he says.

He contrasts the UK with the position across the Atlantic. "In the States, for example, there is a lot more co-operation from industry. There is much more part-time teaching in higher education by people in industry — due in part to the different university structure. It is not entirely a question of attitude, but industry there takes a longer term view of what universities can do for them. There is no need to show how a relationship with a university will affect this year's balance sheet: it is the ultimate long-term investment."

Lehman can make his criticisms from the standpoint of a department which has already shown commercial initiative. Imperial Software Technology (IST) is a company set up as a process designer, and "toolmaker" for the software industry. Its main "product" is the transfer of technology, taking advanced software techniques into industry.

But the company has another objective, according to the professor. "IST is seen to provide an industrial environment in which software engineers can acquire practical experience. The students

will see consultations with clients, the design, and the planning."

It is envisaged that the embryo software engineers will participate in development, although their role will not be critical. "The college must ensure that the students go to places where advanced technology is being applied, rather than where they will learn how not to do things," added Lehman.

With the reputation that Imperial College has acquired, there is no shortage of jobs for computing graduates: students with firsts or seconds have between three and six job offers apiece.

This imbalance is impressive, but is reflected across the UK, where the total number of specialist places cannot meet the demand. Computing science has

30% more applicants on a national scale than physics, although the latter is three times as many places in university.

Many physics and mathematics graduates come into computing, programmers, after what Leitch regards as an inadequate training. "A lot of money is spent retraining them, when they could have been computing science in the first place. If this is a crisis in technology, let us make the investment once and for all in computing science and software engineering on its feet in the Twentieth Century of the next demand."

Few people in the industry would disagree with those comments — but is there any likelihood of action being taken?



LEHMAN "Government has the responsibility to think long term"



The poly that doesn't want computer boffins

David Casey reports from Kingston, soon due to launch an information system design course

HAROLD WILSON'S decision to upgrade colleges of advanced technology into universities during the '60s could have sounded the death knell for a complete tier of the education system. With an adequate number of universities to offer all the degree level courses required, there was potentially no role for the technical colleges and polytechnics offering Higher National Diplomas.

The continuing demand for technologists with practical experience, and the subsequent acceptance of CNAAs degrees by industrial employers has helped carve a niche in the educational system for polytechnics like the one at Kingston in Surrey.

The college has been offering a computer science degree course since 1969, with the entire programme re-written every three to four years to reflect developments in the industry; the current emphasis is inevitably on software.

In the experience of course leader Paul Bloxham, graduates are not taking up employment with computer manufacturers, and few move on to the Civil Service or teaching.

"Many join software houses, commercial enterprises and the nationalised industries, where they can specialise in applications and consultancy. From the outset we try to prevent computer boffins, although the students must be technically competent above all. We look for enthusiasm rather than obsession."

Placements for the industrial elements of the Kingston course reflect a similar orientation, but with a proportion working with hardware manufacturers. The students spend a total of 14 months in industry, spread over two sessions in the three-year course. Since it is not essential for them to return to the same firm for both phases, there is a great variety of environment and experience to be gained.

Specialists for graduation are determined by the selection of third year options, while the academic component is endorsed by a practical project. The choice of project is influenced by the students' experience with their "sandwich" companies and the success of their other work.

Bloxham maintains that the graduates are kept immediately up-to-date with developments. "The final year options can be changed very quickly, based on feedback from industry, so there is only a one year lead-time to a new course."

His colleague Dr Patricia Pearce is about to launch a new course in the autumn, which should produce another sub-species of "homo calculus". Information systems design is intended to give students a broader base in the computing industry rather than a detailed knowledge of computers alone; it covers management, accounting and business practice.

The view at Kingston is that the course provides the background required to design a system which can meet the needs of the user. The information systems design course at Kingston is regarded as an equally valid concept at post-graduate level, where it has attracted the interest of ICL. The company has arranged for Kingston Polytechnic to run an MSc course, with half the fees paid by the Science and Engineering Research Council.

As part of this enterprising joint-venture, ICL is providing Perq and DRS hardware at reduced prices. Of the 30 students on the first course, half are ICL staff; the company's customers

"We look for enthusiasm rather than obsession"

taking up the remainder of the places. The objective is to provide a formal computer training for suitably qualified staff from another discipline.

Course leader George Rzevski explained how the project came to be set up. "The first approaches were made by ICL some eight months ago, when the company was looking for an MSc course at a university or polytechnic. Our proposal was accepted because the course could be running immediately — we have a similar course already operational."

Academic responsibility for the course rests with Kingston Polytechnic, although the ICL client was involved in the detailed design once the proposal had been accepted. Prospective students must meet the normal post-graduate entry requirements for the college. ICL forwards the application forms of appropriate candidates from its own staff and those of the company's customers: Kingston makes the final selection.

Rzevski saw a continuing interaction with the company as the course progressed. "ICL people will be involved in presenting case

studies." And with a note of optimism, he added, "including Robb Wilmet himself!"

The broadly comparable course to which Rzevski referred was a master of science in information technology. This one-year full-time programme is part of the much vaunted IT initiative of the government, which has been promoting new courses in a selection of universities and polytechnics.

In keeping with Whitehall policy, the Kingston MSc is a conversion course for graduates without a formal background in the subject. It would not provide a vehicle, however, for a pure arts student to re-train, as course supervisor Mike Denham illus-

trated.

"The students must have some computer exposure, either as part of a first degree or from a Topos course, to ensure that they are aware of the environment. People must be employable; our criterion is whether they would get a job with the addition of the qualification that the course provides," said Denham.

Competition for the 30 places on the course is stiff, with an initial list of almost 700 candidates. Government funding has provided SERC studentships for every place; an exceptional situation for post-graduate courses. A first or a 2/1 degree is the accepted entry level for a SERC award, but the applicant's experience is taken into ac-

count. The fact that SERC has lifted its normal age limit of 30 for the scheme indicates the importance of the student's background as a foundation for this applications-oriented MSc.

Kingston shows that polytechnics can produce quality courses

Denham indicated the kind of student he was hoping to attract to the course. "We are taking people with psychology degrees to work on the man-machine interface, for example. One candidate with a

place has had several years' sales experience before gaining his psychology degree. Anyone who completes the course should be able to take a leading role in implementing IT systems, and initiating greater awareness with his or her ideas."

Through the medium of its new systems courses, and the MSc in information technology, Kingston Polytechnic is demonstrating that this sector of higher education can produce quality courses and students to meet the requirements of a constantly changing computer marketplace.

But it has taken the best part of two decades to take away the stigma of being the universities' poor relations.

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KINGSTON POLY... No boffins wanted.

EDUCATION AND TRAINING



BIS' Gerry Richings writes about why effective training is needed for effective growth

Wanted - skilled people

advertising spend, with revenue this April up 37.8% over the corresponding period in 1982.

Conversely, there is unemployment within the DP industry, due in part to companies wishing to retain flexibility by using contract staff rather than recruiting on a permanent basis.

When compared with the rise in recruitment figures, however, it would seem to suggest a gap between the need for certain skills and the ability of individuals within an installation to fulfil the organisation's expectations.

What then can be done to close the gap between skills requirements and their fulfilment? Part of the answer must be to improve the skills and abilities of the installation's people resources, and this can only realistically be achieved through a carefully directed improvement training programme.

Training is traditionally one of the first areas to feel the effect of a depression. This is in part due to the way many organisations view training. It is often seen by senior management as an activity principally aimed at new entrants - in other words a necessary part of the induction and initial development process.

Where DP training is mainly provided at new entrant level it is a sign that training may not be geared clearly enough to corporate and information technology objectives. In the extreme this can lead to training for experienced staff being viewed as a "perk" for good behaviour or performance.

While the need for new entrant training is seen as an obvious requirement, the investment and benefits associated with subsequent training - whether technical, general skills, or methods - has not been the subject of the same focus either in government sponsored schemes, or in the media in general. Yet failure to

develop an installation's resources to full potential misses the very real benefits associated with a carefully constructed and directed training improvement scheme.

These may include, for example: Productivity increases from the introduction of improved working methods; more effective individual contributions in all areas - analysis, design, programming or operations; improved communications skills integral to the DP department and within a company; increases in job satisfaction minimising the occurrence of loss of key staff.

In the worst situation the loss of experienced personnel can become a vicious circle because high staff movement means that companies are even less willing to train people beyond basic skills.

It does seem, however, that the mood of opinion is changing and that the value of training aimed at improving the effectiveness of experienced resources is being recognised. One example of this is the change in emphasis of the MSC training support schemes.

Up to now, these have been concerned primarily with the provision of basic skills training. But future aid will be focused much more sharply on the more advanced technology areas. The awareness of this area of need will be reflected in the grants available from next month.

The speed at which information technology is moving means that post-entrant training is essential if a company is to ensure that its human resources are able to evaluate and subsequently exploit new technology to the corporate benefit. It is crucial, therefore, that managers with responsibility for training within data processing adopt a positive approach to post-entrant training requirements.

Ideally, training should be based on a careful analysis of training

needs within the installation and clearly geared to the foreseen needs of the information technology services it provides. It should include a balance diet of product training relevant to the installation as well as training geared to the improvement of individual skills, and technical problem-solving in the wider sense.

It is clear that "one stop shopping" in the equipment and software supplier sense has gone, and more and more our human resources are being directed to evaluate a range of technical options and potential suppliers, and to select the best buy. This trend

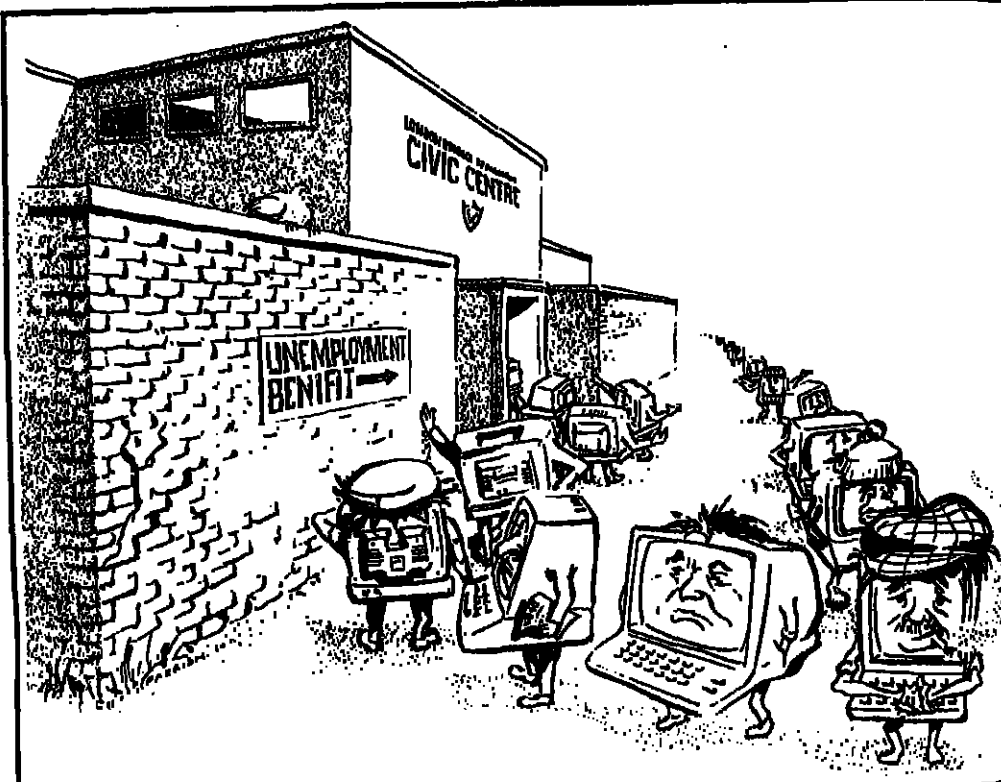
will undoubtedly continue, and put its own pressures on management and staff to maintain their understanding of technology trends and design issues.

In BIS overall training revenues are 30% up on the preceding quarter and, while new entrant basic skills training continues to play an important role within the context of our customers' training requirements, it is clear that more attention is being directed at the need to improve the performance of existing managers and staff, and to maintain their knowledge and understanding of technology trends and options. In the BIS context

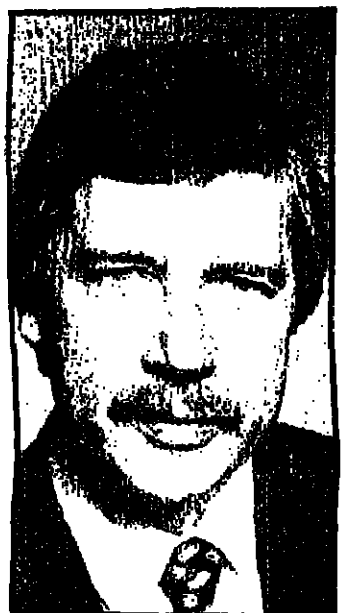
this is reflected in an increasing demand in three relevant areas. Interpersonal skills; methods of improving productivity in the systems development process (Modus); and advanced technology embracing for example local area networks, office automation, and telecommunications.

It is to be hoped that these are indicative of the future of that successful training will continue to satisfy the needs of the individual, the DP department and the organisation as a whole.

Gerry Richings is director of training at BIS Applied Systems.



Unemployment is caused by companies wishing to be flexible and employing contract staff.



RICHINGS... Improve skills.



Richard Lee argues that skill shortages can be overcome by training managers in micro skills

Micro waste is a problem

trained operators/programmers working on mainframes only a few years ago.

If managers are encouraged to make use of the increased capacity of micros; are offered proper training; get full support and advice from their DP managers - then they will become contributors to the data processing system.

If they are discouraged from learning about micros; are given no advice on standardisation of hardware and software; are forced to smuggle in their micro by the back door - then they will become enemies, even saboteurs, of the existing system.

The acquisition of the skills needed to make use of a micro by managers is essential in their own speciality will also go some way towards meeting the shortage of skilled and experienced computer personnel - the manager does not need to bring computer experience to bear on his DP activities since he brings experience and knowledge of his own specialist requirements.

In simple terms one can say that the micro can be the ruin of central data processing or it can be its greatest ally, and it all depends on the attitude adopted by central DP departments.

It also depends on training. Proper training is urgently needed to bridge the gap between increasingly powerful microcomputers and the millions of technically untrained executives, professionals

and small businesses who already own, or are on the point of acquiring, such machines. If training fails to keep pace with developments in hardware and in software then these developments are largely wasted.

Indeed it is reasonable to suggest that inadequate user training for micros has meant that growth in the personal computer market has already slipped behind its potential. This is certainly the view of observers in the US but may not be fully applicable in Britain where the market has followed a rather different pattern.

Here the danger is that machines are being bought and put into use but are only realising a fraction of their potential because the people operating them have only a partial understanding of what is possible.

Rather more market research into the microcomputer market has been published in America than on this side of the Atlantic. Dataquest, a Californian market research company was quoted in *Business Week* as saying that \$14 billion will be spent on personal computers by 1986 and the training industry will have captured \$3 billion of this.

The training industry is becoming very big business in the States. The Computerland chain of computer stores has made it a policy that all new stores, which are opening at the rate of one a day, must be equipped with an attached

classroom and that as many as possible of existing stores must be retrofitted with classrooms.

In contrast, UK retailers have cut back on training as their margins have been squeezed tighter and tighter. If the American perception of the market is accurate then this cut back in training is against retailers' long term interests since it will slow development of their market.

Of course, training needs themselves have developed with the increasing power and sophistication of the micro. The longer term development will be towards more and more courses being geared to specific software packages.

There will still be a need for the language based courses, and the general introduction courses, but the great growth area will be tied to packages. Such courses will be geared to just that group of people whom I believe to be vital to improved efficiency of data processing throughout industry - the senior and middle managers in large companies, professionals and small businesses.

Training emphasis will move even further away from the retailers and towards the software and specialist training houses.

There is no question that training will remain a vital part of the microcomputer boom. It is reasonable to assume that a point will be reached at some time in the future when the need for basic introductory courses will diminish

but that time is still a very long way ahead. It is also reasonable to assume that by then the choice of new software will be such that there will be a massive growth in refresher courses and package specific courses.

Anybody who wishes to get the most from his microcomputer need not be fluent in Basic or Cobol or whatever. He probably has no need to be able to program. What he needs is a basic understanding of what can and cannot be done and a detailed knowledge of the particular software packages which he wishes to use.

What all this amounts to is that the sort of training given needs to be geared pretty closely to the uses to which micros will be put. There is a need for a whole range of specialist courses and for people to be prepared to attend as many such courses as necessary.

Quite simply, if proper training is not supplied then micros will not come anywhere near to fulfilling their potential. Resistance to making full use of micros will range from the small businessman who won't buy one in the first place because no one has shown him how to use it, to the executive who, having mastered one set of skills and range of software, will not develop these skills.

When Robert F. Wickham, founder of the American Corporation Business Technology Inc, talks about the "educational bottleneck" and refers to computer

training as the "next business frontier", he has got it about right. Provided, that is, that this area is not strangled at birth by resistance from established computer experts who will not take to micro seriously.

Horizons of a great number of computer experts seem to stop at the mini and they don't fully appreciate that today's micro is nearly as effective a tool as any mainframe on which they have been trained in the first place.

With the availability of MSA grants the cost of training need not be prohibitive - though some grants do not apply to all courses - but even where grants are available the needs for training are greater in the long term than investing in training now.

Increasingly, specialist companies will take on the responsibility of training. They will do so by running courses in their own classrooms and by providing specialist courses to be run in-house for their customers. We run all sorts of courses and both sorts of advantages. One thing about a course run at a customer's premises, however, is that you can be reasonably sure that the DP manager has been convinced and someone who has decided to go on and make friends with the micro.

Richard Lee is managing director of the Computer Training and Education Centre (CTEC).

EDUCATION AND TRAINING



Sue-Lloyd Osborne thinks it's about time end-user training was taken far more seriously

Teaching businessmen is a serious business

dealer being able to offer formal training on his own premises because of the very nature of business software sales - he will be selling one application package today and a different one tomorrow - he cannot support the classroom approach.

Typically, the dealer sends a support person out to the user site to do the "training". This person is inevitably a technician - what dealer can afford to employ a dedicated training or software expert?

The support person carries out the training on the user site, a situation rarely conducive to learning because of the continuing pressures of the working.

Unfortunately, the support person is all too often a technician who may excel in the training of hardware usage but will be unlikely to have the necessary experience in business oriented application software.

It has become apparent that the software supplier must shoulder the responsibility for this process and work together with the dealer to provide some real support for the end-user, who needs to be able not only to understand the software but also to be able to apply it to his business.

This task must inevitably lie in the hands of the application expert, usually only to be found on the supplier payroll.

One of the few companies to organise a complete training programme is Maidenhead-based Peachtree Software International. Peachtree is the microcomputer software subsidiary of MSA (Management Science America); the

world's largest independent application software supplier.

While the company has always addressed the need to educate both its dealers and the manufacturing licensees, it is now launching a complete education service which includes training for the end-users.

Peachtree has taken the approach usually restricted to the large mainframe manufacturer or software supplier - that of setting up its own training centre with a dedicated team of lecturers.

This new department will open its doors to its first end-user trainees in August, with one-day courses each covering a particular package. The company is by no means acting from altruistic motives, the decision is based on sound commercial principles.

Commenting on the justification behind this new facility, John Hale, Peachtree's managing director, admitted: "Like any company we need to increase the number of successful end-users of our software. We're doing all we can to improve documentation and the usability of the systems but for a long time properly structured education is going to be necessary to achieve that objective."

Hale is convinced that it will take time before technology reaches the stage of self-teaching software being a reality rather than, as it is at present, a rather enthusiastic claim.

"It's not just knowing which keys to press. Implementing a package can demand new business skills for the user. Many businesses which buy our software are changing from manual bookkeeping

techniques depending on an independent accountant to bring the books together.

"With our software the user can prepare his own chart of accounts but it is highly likely that he will need advice on how to accomplish this. For this reason the user needs to be trained by someone who not only has the technical appreciation of software but also an in-depth knowledge of business routines," Hale continued.

"I am in no way criticising the dealer who has done a superb job in the interim. The only pity is that many dealers will have to carry on in this fashion because training support from suppliers doesn't exist."

"We would like to see our training as part of the support package offered by the dealer. We do not demand that dealers send end-users on the courses. They may continue doing their own training but I think most will regard it as an economic sense to encourage our users to attend Peachtree courses."

Peachtree's one-day courses offer, in addition to actual familiarisation with a particular product, a complete grounding in the use of microcomputers with elements concerning data handling, familiarisation with operating system utilities, implementation procedures, the importance of security copies and problem solving.

The courses require no previous computer experience and provide the trainee with both classroom teaching and practical "hand-on" training. Each course is fully docu-

mented and the user can use this for reference after his course.

The actual product element in the training course appears to be very thorough. For instance, the Peachtree basic accounting system nominal ledger course goes through the design, amendment and maintenance of the chart of accounts, budget and prior period information, transfers from other ledgers, journal entries, profit and loss statements and the production of a balance sheet.

The courses appear to be professionally designed and at a cost of £15 for a one-day course, they should be Users can book up either with Peachtree direct or through their dealer.

In addition to the end-user training courses, Peachtree will

also continue to offer training to dealers and its manufacturer/distributor licensees, but on a more structured basis.

The dealer training courses are designed to help the dealer sell and support the Peachtree product ranges. Each course will cover one of the Peachtree product ranges and will last for three days. These courses are also open to manufacturer's and distributor's own dealer network.

The courses specifically for the manufacturers and licensees are again three-day courses on each product range but will look more at the product awareness and support aspects. These courses will be given at the customer location.

Sue Lloyd-Osborne is a freelance journalist.



Sue Fergie, manager of training services at Peachtree Training School.

Simulated games that stimulate thinking

Sheila Hart looks at the role of management games

Each year, experienced managers from major banks and multinationals compete against teams of college and school students. The game simulates a real management team situation, with team members adopting the role of sales manager, production manager and so on.

A rapid succession of business decisions has to be made, each designed to illustrate by results in the form of profit and loss, the interactive implications of each manager's area of operation.

All too often it is the beginners who make the big profits and win the Corplan game, leaving the experienced managers to "go bust" in the early rounds.

Why? Perhaps the main reason is summed up by Alan James of Hewlett-Packard's training department. He points out: "In the rapidly changing business climate, the criteria on which executives base their decision-making must alter with circumstances. All too often, with experience comes the temptation to use a solution which has worked once to solve similar problems every time they crop up."

There is also the danger of each manager taking a blinkered approach to decision-making which has implications for his colleagues.

Alan James wants to use Corplan in conjunction with a number of other management simulation programs to educate managers out

of these bad habits. He explains: "By presenting trainees with one set of decision-making circumstances using Corplan, then switching to a different simulated situation, we hope to teach them not to rely on established frames of reference but to assess each management problem as it affects the current situation in general."

Ken Young of Watford College uses Pet Plan, the Commodore version of Corplan, for the residential weekend management training courses he's been running for 12 years.

At Watford they find that the local executives who attend the courses welcome the opportunity to change from their normal "real life" management roles and to experience a speeded-up version, albeit fictitious, of how one area of management decision making can affect another.

On a basic level, Ken Young also finds the game a reassuring and purposeful way of introducing executives who are unfamiliar with, and sometimes wary of, the use of microcomputers, to new technology.

Brain Lusher, of Carreras Rothman's group management training department, a long-term user of Corplan, points out that computer based simulation packages of this type can add a valuable practical dimension to relevant "O" and "A" level courses in, for example

accounting, economics, commerce and computing as well as polytechnic courses in business studies.

The fact that management training has been a *rigueur* in the major British companies for well over a decade, without any firm evidence of major improvements in standards, indicates that the earlier this type of practical solution is applied the better for the future of British industry.

Sheila Hart is a freelance journalist.

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Most private training schools are, of course, above reproach. But one or two are entirely unscrupulous, as an ex-teacher at one, Peter Brown reports

You pay the money and you take your chance

"THIS is a business. As long as the students are happy they'll pay the fees. And as long as they pay the fees we'll make a profit, and you'll get paid."

Such were the words of advice I received from the boss of the private computer school into whose employ I had entered. Situated in the seedier side of London's West End the school resembled a mini-United Nations, with Asians, Arabs and Africans making up a large percentage of the students.

"Keeping the students happy" was the key to being a successful teacher, at least in the eyes of the principal. This proved to be no simple task.

None of the students were alike in ability, motivation or suitability for working with computers. Measured in terms of firepower, some had the intellect of a peashooter, one or two that of a cruise missile, while most were in the flintlock pistol class.

The school did have an aptitude test with which it weeded out those considered undesirable. Unfortunately this obstacle could be overcome by a simple ploy: the production of sufficient cash to pay the course fees, then about £1,300 for 14 weeks.

Once they had entered the school's premises potential students were given a glossy brochure, stuffed with details of the courses, most of which never existed

Students were pulled into the arms of the school by two methods: either through newspaper advertising or via overseas contacts. The former promised them the high probability of employment in the computer industry. The latter usually had a job anyway, and many had their expenses met by their companies.

Once they had entered the school's premises potential students were given a glossy brochure, stuffed with details of the courses on offer, most of which never existed. They were also given impressive statistics on job opportunities in the computer industry.

The aptitude test lent a nice touch of credibility to the proceedings.

Before testing their intellect against this rather formidable battery of problems, students were told that a mark of, say, 45% was acceptable. A fellow teacher gave the test to an average 11 year old: he scored over 80%.

After wading, or struggling, through this timed test candidates would then be subject to the school interview. If they were hopeless, lucky, and English they might be given an honest opinion of their utter unsuitability for computing.

But if they were foreigners or immigrants they did not stand a chance. Their heads would be filled with dreams of well paid jobs at the end of the course, at which time many would be on their hands and knees for a job in a hamburger bar.

Poor English was no drawback to the enrolment of an overseas student. After all, the aptitude test was concerned merely with latent

computer ability, not with such bagatelles as the ability to understand the language of instruction.

Apart from being told they were wonderful, potential students were often given extravagant promises that could not be filled. The most depressing of these worthless boasts of hot air was the pledge that job finding assistance would be given at the end of the course.

Another favourite untruth used by the course salesmen was to guarantee "hands on" experience. No such facility was available to the majority of the students, most of whom were only afforded the briefest glimpse of the hardware on a short tour of the premises.

Students who decided to take the plunge would then sign a form which bound them to pay full fees to the school. The wise ones took the option of paying by instalments, even though this cost more in the long term.

Although the school informed them that it would take legal action should students not pay in full, this was an empty threat. Any legal action ran the risk of backfiring in terms of the bad publicity it might generate.

Also, those who were paying by instalments ranked higher on the "careometer" than did those who had coughed up the full amount in cash. "Pay as you learn" students had their complaints heeded. If they were hopeless the more scrupulous teachers would tell them to forget the whole thing and get off the course before they wasted yet more cash.

One East African girl, who clearly thought she was the intellectual equivalent of Bertrand Russell, scored such a low mark that she was told to go away. Her English was so bad that this simple command was not readily understood.

Undaunted, she returned the following day with the fees in full, and was accepted with open arms.

Once embarked on the computer appreciation and programming course, students were surprisingly enough given the tuition promised. All of the teachers were qualified in computing and many would have put their state college degrees to shame.

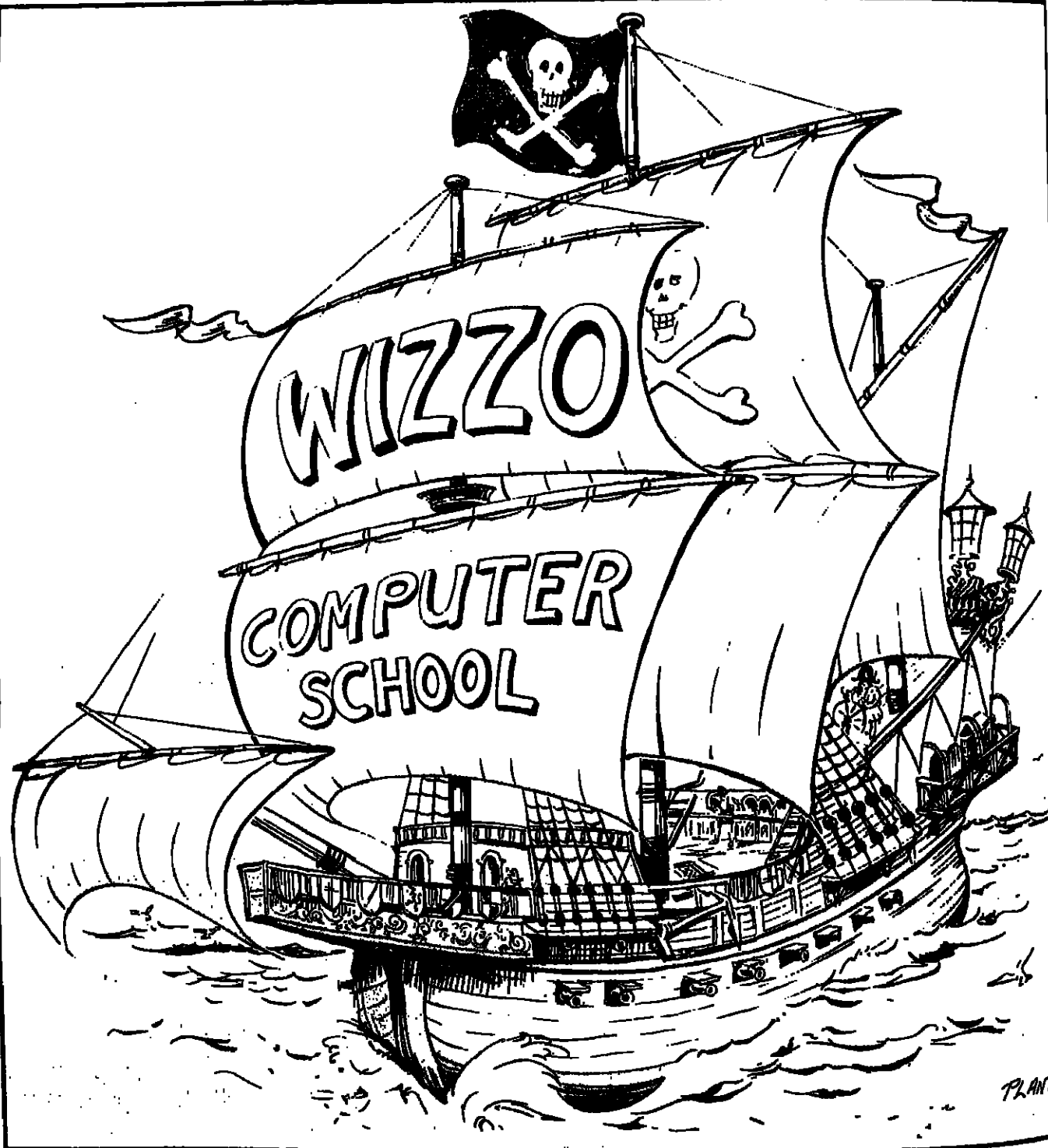
But for many students this was irrelevant. Given their lack of ability and poor English not even the good Lord could have saved them.

Typical of this lost cause was one young man from Pakistan. Armed with a batch of large certificates from various higher educational institutes in his home country, he seemed an ideal student, especially as most of these qualifications were in scientific subjects.

"Undaunted by being told to go away, she returned with fees in full and was accepted with open arms"

Regrettably, no one had told him that proficiency in English was much more important than his fistful of Pakistani certificates. No one, that is, apart from the computer school boss who had tried to sell him an English course.

The hopelessness of his task may be measured by the fact that he could not distinguish between goodbye and hello. Despite being advised by his teacher to quit the



course, he continued his hopeless task and enrolled on an English course at a nearby private school. Needless to say this institute, as with the computer school, welcomed him rather like the wolf welcomes the stray lamb.

At the other end of the scale there were students who took to computing like Brazilians to football.

In any class there were always two or three students who had "A" levels. Some of them had attended degree courses only to drop out for various reasons. Many of these were working in the evenings in order to pay for the course. It tended to be this type who posed the awkward questions.

Inevitably they asked about the promised job finding assistance, and the lack of "hands-on" experience. Teachers, when faced with these prickly inquiries took one of two courses of action. One was to refer the student to the principal, the other was to fob the student off with a little lukewarm advice. Foolish was the tutor who told the truth.

The first course of action was, in the short term, the easier of the two, but in the long term was dangerous. The principal did not like

having to handle this sort of uncomfortable question, and that would mean a black mark for the teacher concerned, often expressed in terms of no pay rises.

Most teachers offered such job hunting hints as were applicable, such as looking for computer employers in the yellow pages, or giving advice on how to lay out a curriculum vitae.

As far as the "hands-on" experience was concerned the usual way out of this awkward poser was to say that the equipment was on its way. Surprisingly enough most students tended to accept this half-baked excuse.

If any group did try to right wrongs it was the teachers.

For example, the owner would be told that promising prospective students job finding assistance was a latent lie, and thus quite immoral. He would make sympathetic noises, but would always come back to his favourite theme that a profit had to be made if the business was to survive.

In that sense he was quite correct. Without all the false promises student numbers would diminish, and the whole enterprise would be doomed.

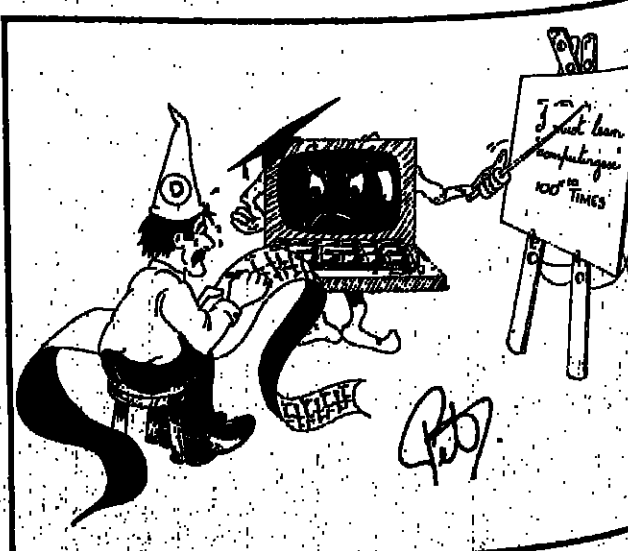
Eventually, two years after my

exit, the business did fold. Laid low, not by an onset of morality on the part of the owner, but by the inexorable advance of the recession.

The numbers of home students coming forward fell dramatically, mainly because the word got round that trainee computer jobs were scarce, rather than because very

few people could afford the fee. Competition between the private computer schools became intense and only those who could recruit overseas students survived.

Not that that would bother the mass of ex-students who had wasted a mass of time and money in a vain attempt to buy a slice of the computer jobs bandwagon.



PEOPLE



M. E. Cleverley (above) has been appointed managing director of GEC Jerrold in a number of new appointments in the company. He has held various senior appointments with GEC Jerrold, being appointed director and general manager in 1982. Business activi-

ties under his control provided the technology and professional business base behind the creation of GEC McMichael in 1982 and now the GEC McMichael contribution to GEC Jerrold. D. Kent has been appointed as technical director. He is currently president of the Society of Cable Television Engineers. T. S. Duffy has been promoted to engineering director. He is currently division manager telematics, which covers cable TV, video and data transmission and teleconference systems. Finally, R. W. Brown has been made company secretary. He moves from the Jerrold division in Belgium where he was financial controller.

Quality assurance manager at Cifer is Paul Theobald, heading the department responsible for all aspects relating to the quality of Cifer products and customer service. He has been with Cifer for 6 1/2 years and previously held the post of chief inspector, quality assurance.

Linda Hall has been promoted by Rediffusion Computers to systems analyst, Midlands and North-east branch. She joined the company in 1976 as an instructor and in 1980 was promoted to junior systems analyst.



Mentor Graphics has appointed Ron Berwick as sales manager for northern Europe. He will sell the DEAI1000 computer-aided engineering system for electronic circuit design. He previously worked for Calma.

Edward Holt has joined MSA (Management Science America) as sales executive covering Scotland and North-east England. He was previously senior sales executive with ADP Network Services, where he spent two years.

Mail Marketing (Bristol) has appointed Ron Morgan (below) as its computer services manager. He was previously operations director of Britannia Music's direct marketing division, a subsidiary of Polygram.



Four of the subsidiary companies of Micro Business Systems have appointed new directors. They are David Bradshaw (second right), director and general manager of MBS Engineering Services, who has been responsible for the group's service division since 1980 as general manager; Philip Ely (far left), director and national sales manager, MBS Terminals, whose previous position with the company was national sales manager; Ian Hill (far right), director and general manager, MBS Personal Computers, who previously held the position of DEC products manager, MBS Terminals; and Les Hill (second left), director and general manager, MBS Microtex, who has been with the company since 1978 and joins the board of MBS Microtex from the position of national sales and marketing manager.

Davis is Salesman of Year

Brian Davis has been named AIM's Salesman of the Year. He achieved 140% of his target, with total sales for the year amounting to over half a million pounds.

In announcing the award, chief executive of AIM, the Hull computer systems firm, Clive Teller, said: "A salesman's job is more than just securing orders. There has to be an understanding of, and commitment to, profitable sales,

an even spread of both orders and revenue, the continual fostering of the company's reputation and team spirited co-operation with fellow salespersons, development and support staff."

In the four years that Davis has been a salesman with AIM, he has been over target every year, a record that the company believes deserves the £250 of white goods which were his prize.



STU KITCHINER has joined Manhattan Skyline, the OKI UK distributor and representative, as a director. Kitchiner was previously director and general manager of Ambar Components, the MEMEC (Memory and Electronic Components) subsidiary. He was instrumental in establishing Ambar in January 1981. Earlier he was with Texas Instruments.

DIARY

AUGUST 8-11

Practical Computer Auditing for business and systems analysts is organised by Control Data. It will take place at Control Data Institute, London. Cost is £445. Details from Sylvia Lyons, 01-240 3400.

AUGUST 8-12

Introduction to Organisation and Methods is designed for those involved in administration or management who need to review current practice. It takes place at the Henry VIII Hotel, London. Course places at £510 may be booked through the course registrar, Cherry Bignmore, on 01-261 9237.

AUGUST 16

Data Communications Overview at the Control Data Institute, London, gives an intro-

duction to modern communications systems. Organized by Control Data, it costs £145. Details from Sylvia Lyons, 01-240 3400.

AUGUST 30-SEPTEMBER 2

The second International Conference on Database, organised by the British Computer Society and universities of Aberdeen and Cambridge, takes place at Churchill College, Cambridge. Details: Peter Hammersley, Middlesex Polytechnic, London N11 2NQ.

AUGUST 31-SEPTEMBER 1

Improving Programmer Productivity is a practical workshop for trainee programmers with basic language training and initial experience. Run by BIS Applied Systems, it is to be held at the Park Court Hotel, London, and costs £270. Details: Cherry Bignmore, 01-261 9237.

CONFERENCES

ALTHOUGH computer auditing is frequently considered the concern of major financial institutions, there is an increasing need for all computer installations to be monitored and controlled effectively to avoid accidental or deliberate falsification of computer held records. The computer as a tool and as the object of the auditor's professional attention is to be examined by Andrew Chambers in his second presentation of Pergamon Infotech's tutorial, Computer Auditing, in London from September 12-15. The tutorial programme is designed for auditing specialists working with computers and data processing staff. Chambers, who is senior lecturer in audit and management control, the head of the

accountancy division at City University Business School in London, is a Fellow of both the Institute of Chartered Accountants and the British Computer Society. Cost is £485. Further details from Pergamon Infotech, Maidenhead, (0628) 39101.

THE sixth International Symposium on Programming takes place in Toulouse, France, from April 17-19, 1984. The sponsors are the French National Research Council and the University Paul Sabatier de Toulouse. Details can be obtained from Prof B. Robinet, Université Pierre et Marie Curie, Aile 55-65, 4 Place Jussieu, 75230 Paris Cedex 05 France. Tel: (1) 336.25.25 (ext. 52.51).

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01-661 3125

Data processing people are used to good support from suppliers, but the personal computer back-up from retailers leaves much to be desired, says David Ferris

porate & user.

particular location. Under this

service organisation of about 1,500 employees.

ware companies have a telephone support staff of about two to four

Over the long term, it's not v



John Aczel finds that imports and exports of computer kit are on the upswing

end of 1982. For the first three months of the year, the underlying trend has also been firm and sales amounted to £78.6 million.

In terms of value, there has also been a significant growth in deliveries abroad and over 34,000 CPUs were sold overseas in March as against 22,400 three months ago. Evidently, the recent fall in sterling has made exporting easier, especially as some British firms have been in a good position to cut their prices, particularly in some of the Continental countries.

In the case of complete systems, deliveries from abroad were very firm and amounted to £16 million in March. This compared with £6.7 million in December, while for the first three months of the year the total has gone up to £37

Table 2. UK imports of computer systems — by volume

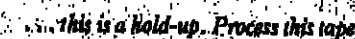
Exports of complete systems
Belgium-Luxembourg
France
Germany (West)
Italy
Japan
US

March 1983 £000	December 1982 £000	Jan-March 1983 £000
—	333	—
568	519	1,521
1,152	229	2,104
200	33	286
—	143	226
127	380	779

Table 3. UK exports of computer systems — by value.

Table 4. UK exports of computer systems – by volume.

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The UK continued to have a negative trade balance, although it was lower than expected with regard to CPUs.

The trade figures also reveal that deliveries of processing units by Japan have remained low, and were under pressure in the early part of 1983. Japanese sales of these products amounted to only \$300,000, which was about 50% lower than at the end of 1982, although unit sales by Japan were higher than three months ago.

In the case of complete systems, deliveries from abroad were very firm and amounted to £16 million in March. This compared with £6.7 million in December, while for the first three months of the year the total has gone up to £37.6

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As a result of their professional marketing stance, recent product launches and continued expansion, we have been retained to recruit sales executives to become part of our Client's positively directed and well supported sales teams.

This recruitment heralds an important new business drive and therefore candidates should have the proven ability to win new business, coupled with maturity and credibility to maintain and develop long term substantial accounts.

In return for your success, you will receive a generous income and benefits package, with the satisfaction of joining a company whose plans are based on a combination of financial security and the continued adherence to a proven business philosophy.

Our Client is poised on the threshold of the most exciting and certainly the most significant phase of their development so if you would like to be considered for these superb opportunities, please contact RICHARD CHAMPION on 021-236 1999 (24 hour answering service) or Hagley 844166 evenings and weekends. Candidates are invited to submit Curriculum Vitae if preferred, where confidentiality is guaranteed.

Cathy Tracey & Associates Ltd

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1-3 NEWHALL STREET
BIRMINGHAM B3 3NH
TEL: 021-236 1999 TELEX: 825264

SILBURY BUSINESS CENTRE
356 SILBURY BOULEVARD
CENTRAL MILTON KEYNES MK9 2LR
TEL: 0908 604848 TELEX: 825264

(4889)

**PROGRAMMERS/
ANALYST PROGRAMMERS****System 38 - Middlesex
to £13,000 + Benefits**

Planned expansion into new business areas has meant a 100% increase in turnover for the U.K. subsidiary of a well-known American insurance group. This continuing growth has necessitated the upgrade from twin System 34s to a System 38. To help bring the software into line with the new hardware they now need to recruit three experienced System 38 professionals.

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Salary is negotiable according to age and experience and is accompanied by the sort of benefits package normally associated with an international group. The real benefit, however, will be the opportunity to grow with a rapidly expanding company.

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PROGRAMMER
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Rediffusion Simulation Limited, Gatwick Road, Crawley
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ICL COBOL (APPLICATIONS MANAGER)
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Expected to perform in-depth European market and competitive analysis of all segments of the distributive data and office automation equipment market. Additional responsibilities will include consolidation of information for our various product marketing functions, publication of reports and participation in regular briefing sessions.

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Please forward your curriculum vitae without delay to:

Miss S. J. Sewell
Motorola Ltd, Information Systems Group
114/116 Thornton Road
Thornton Heath, Surrey CR4 6XB

(4827)



MOTOROLA
INFORMATION SYSTEMS GROUP

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your appointments register

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Commercial London

HONEYWELL to £12K
Systems Programming experience Midlands/London

DATA GENERAL ECLIPSE to £11K
Cobol Leicestershire

SYSTEMS 34/36/38/RPG2 to £12K
Insurance/Commercial London/Home Counties

IBM to £16K
System exp. Essex

BASIC to £11K
Mini Computers London

IBM/UNIVAC/COBOL to £12K
On-line/Database Surrey

NCR 8200 to £14K
Financial SW LONDON

Analyst/Progs

PRIME CAD/CAM to £11K
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IBM 34/38/4341 to £15K
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ICL 1500/ME 29/2903 to £12½K
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Europe

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CAD/CAM to £16K
Real time · Modelling Man/Essex/South West

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ICL/ME29 to £16K
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Snr Appointments

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Job Ref.	Post Title	Summary of Duties	Minimum Education & Experience	Salary Range UAE Dirhams	Location
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S.13/83	Senior Programmer	Assists in the design of suites of programmes to implement systems specified by the Systems Analyst. Prepares detailed specifications from which complete set of programmes will be written. Assists the Systems Analyst and Project Team members in testing and implementing systems.	a. B.Sc. in Computer Science or equivalent. b. 4 years' experience in Programming and Data Processing Work. c. Good knowledge of English and Arabic. d. Excellent knowledge and experience on the IBM 308X or 303X Hardware and IBM Operating System for large mainframe such as MVS/SP, IMS, CICS, TSO, etc. and other software products available in the IBM large mainframe. e. Oil industry experience is preferable. f. Duration of Contract: 2-3 years.	7815-8670 per month	Abu Dhabi Town

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PO Box 270,
Abu Dhabi,
United Arab Emirates.
- Department of Petroleum,
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System 38 RPG 3 financial experience Analyst/Programmers
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IBM System 38 RPG 3 Analyst/Programmers
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OVERSEAS

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System 34/36/38

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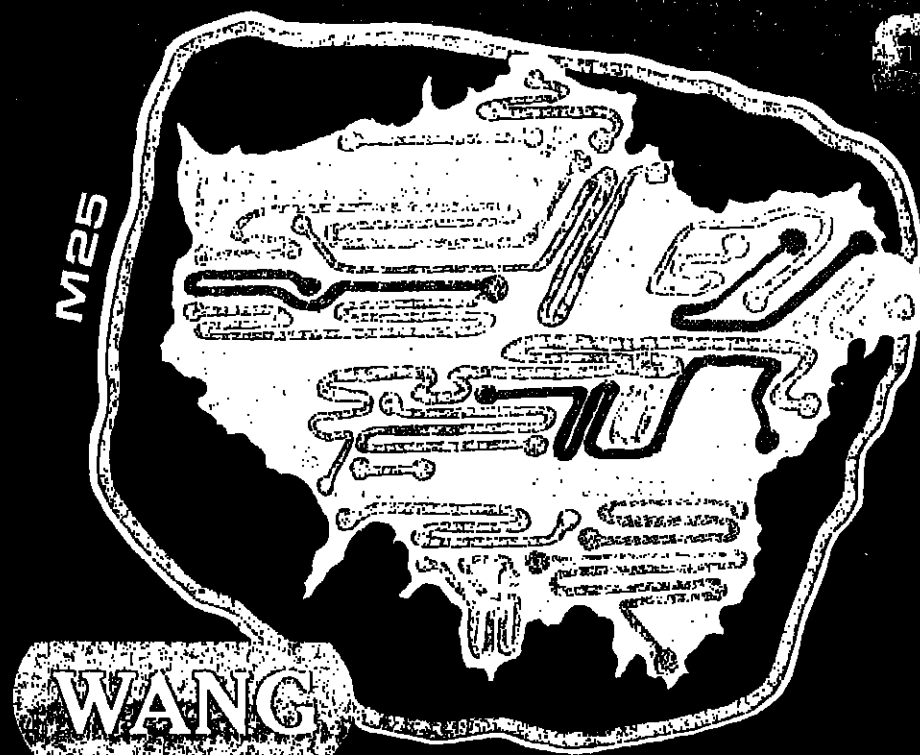


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UCC8 MANAGEMENT SUPPORT SYSTEM
UCC10 DATA DICTIONARY MANAGER
UCC11 AUTOMATED JOB MANAGEMENT
UCC20 OS JCL GENERATOR

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We are looking for the following Experience.

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day to day operations with a current staff of four operators and for ensuring maximum efficient utilisation of existing and future equipment. A good knowledge of DEC Equipment in an Engineering or Scientific Environment would be an advantage and applicants should have previous supervisory/operator management experience. Please apply to: G. D. Prichard, Administration Manager, GEC Research Laboratories, Hirst Research Centre, East Lane, Wembley, Middlesex HA9 7PP. (Telephone 01-904 1293 Ext 211) Quoting reference P1130.

S&C

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Applications are invited for the above position in the University's Computer Centre. Applicants should possess at least a good honours degree in Computing or a related discipline. Experience with any of the following Large Systems, PRIME computers and applications packages would be an added advantage. The duties will involve maintenance of applications packages on 8600 and P100 equipment and P100 systems software work. A large part of the job will involve interaction with users. There will be some participation in a variety of development projects. The salary for Assistant Programmer-Analyst is on a scale from NZ\$16,123 to \$18,722 and for Programmer-Analyst is on a scale from NZ\$21,680 to \$26,064 per annum. Further particulars and Conditions of Appointment may be obtained from the Association of Commonwealth Universities (Acpsu), 34 Gordon Square, London WC1H 0PP. Applications close with the Registrar, University of Canterbury, Private Bag, Christchurch, New Zealand, on 29 August 1983.

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Berkshire: Salaries to £14K

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C & UNIX Programmers

London: Salaries to £10K

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chosen subject matter was directly concerned with UNIX systems software. It is advantageous to be fluent in 'C' programming language and also offer PASCAL as a secondary language. Whilst the majority of 1980 with a good class honours degree in a numerate subject and have at least one year's commercial or industrial experience. Very recent M.Sc. or Ph.D. candidates are also encouraged to apply, particularly if their

Systems Software

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The Applied Systems Division of a leading Systems House and Consultancy requires additional Systems Software Specialists from Programmer to Senior Designer level. All applicants should be educated to B.Sc. standard and have at least two years' experience within a real-time scientific mini-computer or microprocessor environment. It is essential that you offer fluency in an

Assembler and one or more of CORAL, PASCAL, BCPL or 'C'. For the senior positions, applicants should have experience in the specification, design and implementation of systems software. In particular, knowledge of language systems, interface handlers, X-25 protocol techniques or local/wide area networks will be highly desirable. Ref: L 18-11

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A leading Systems House and Consultancy is currently seeking to recruit additional Real-Time Programmers for its Central London Head Office. Suitable candidates should hold a numerate degree and have at least 12 months' subsequent software programming experience in an industrial environment. Your programming skills should preferably include fluency in one or more of the following: PASCAL, C, FORTRAN, CORAL 66 or Assembler.

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high level language e.g. FORTRAN or PASCAL would be a distinct advantage, as would experience of working within a data communications or distributed processing environment. Applicants who demonstrate management potential or those who already have some project leading experience will be considered for more senior positions within the project teams. Ref: L 18-11

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Type of position sought _____ Minimum salary considered _____
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Hardware _____ OP Sys _____ Other S/W _____
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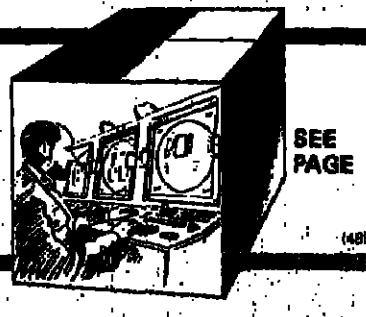
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 An experienced PASCAL programmer who will be capable of rapidly accepting responsibility for a major project. The system currently runs on a microcomputer network and is written in UCSD PASCAL. Planned developments include transferring and upgrading the system on to a suitable Mini computer.
 We also have vacancies for programmers with experience in using popular packages (Dbase II, MicroModeller, etc.) on microcomputers.
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SYSTEMS



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ME29 ANALYST/PROGRAMMERSOUTH LONDON
TO £10,000

HARP HEATING are one of the U.K.'s largest independently owned installers of commercial and industrial heating system. The operation also covers the supply of equipment to the DIY market. The company is currently utilising ME29 hardware running TME, with plans to install a further model 45 in purpose-built offices in South London. Current projects include a large on-line order processing system, and a feasibility study has been completed to convert a batch stock control system to on-line. Due to this development, the company now require an additional ANALYST/PROGRAMMER to supplement their small team and the ideal candidate will have one to three years' experience gained in an ICL 2904 or ME29 environment. He or she will be heavily involved in a varied range of motor projects from the design stage through to implementation.

MIDLANDS OPPORTUNITIESALL LEVELS
£8-£16,000

There are currently a wide and interesting range of opportunities for systems and programming staff in the Midlands. We have been requested by our clients to locate SOFTWARE DESIGNERS, SUPPORT STAFF, TEAM LEADERS AND ANALYST/PROGRAMMERS with a minimum of 12 months' commercial experience. The kind of skills required would typically be included in the following: DATABASIC, BASIC, BASIC + or + 2, RSTS/E, RSX11M, VAX VMS, HP3000 and utilities, all IBM. If your career is leading nowhere, or you're bored or in a rut a quick call to our BIRMINGHAM office is needed to arrange a confidential discussion and objective assessment of your potential with no obligation.

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£10K-£20K + EXPENSES + TRAVEL

Several of the larger, well-established consultancies are currently undergoing massive recruitment campaigns. Their requirements are as FLEXIBLE as your needs. If you have any three of the following attributes - COBOL, PL/1, CICS, DL/1, ADABAS, IDMS, IMS DB/DC, EASYTRIEVE, VOLLIE, ROSCOE, ADF, TSO/SPF, UFO, MK IV, SHADOW, ADS/O - you could soon be working in this fast and rapidly expanding environment. Obviously the more versatility you can offer our clients, the better the salary they can offer you. At a more senior level, salaries can be up to £20K plus expenses and European travel. These are ideal opportunities for programmers with around two years' experience wishing to expand their knowledge, as extensive TRAINING will be provided. If you're interested in getting out of that day-to-day end-user rut, contact SIMON KONING to discuss these exciting opportunities further.

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C. £9,000 + BENEFITS

Our clients are an important City-based member of the financial sector. Due to a policy of carefully controlled growth and a healthy demand from users for the provision of sophisticated information and control systems they require additional members of staff. Hardware is the TANDEM range with COBOL and SCOBOL together with all the associated utilities including PATHWAY, TMF, ENFORM and ENSCRIBE under the latest operating system. It is essential for candidates to have had some exposure to the TANDEM range although the bulk of their experience may have been gained on other equipment. A superb RANGE OF BENEFITS is offered which include LOW-RATE MORTGAGE, NON-CONTRIBUTORY PENSION, GENEROUS LUNCHEON VOUCHERS and others.

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c £22,000 + Car

This is an ideal opportunity for someone with several years experience of selling sophisticated graphic display systems to now assume responsibility for developing the UK sales of an advanced new range of raster scan displays plus an established line of vector refresh systems. Both product lines are particularly suited for use in CAD/CAM, simulation and C* etc. The successful applicant will therefore have a thorough appreciation of the different graphic display technologies and will be familiar with selling in multi-vendor environments to Government departments and institutions as well as to end-users in industry. In addition to normal day-to-day selling activities, the job will involve identifying and quantifying new market areas, reporting back on desirable product developments, agreeing pricing strategies and liaising on hardware and software support requirements.

Graphics Peripherals
£16-20,000 + Car

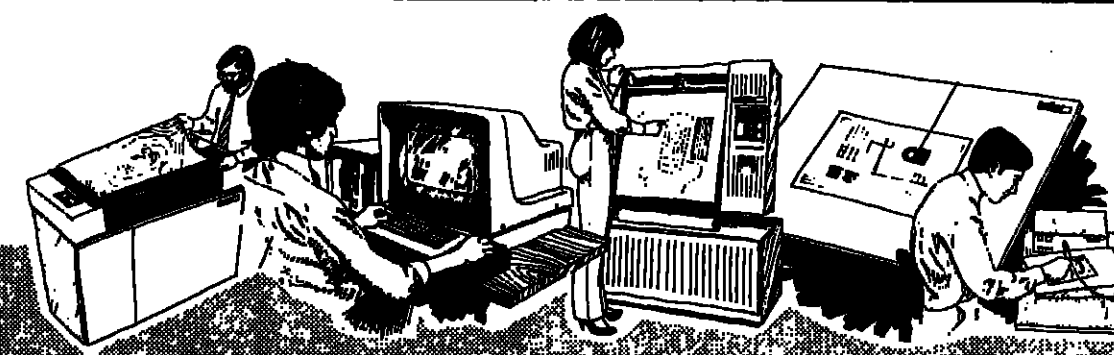
A number of rewarding openings have recently been created for experienced sales engineers to take over some existing accounts and to develop new sales activity in various parts of the UK. Generally working from home, successful applicants (male or female) will be responsible following initial product training, for selling CalComp's wide range of drum and flatbed pen plotters, electrostatic plotter/printers, controllers and digitizers, mainly into scientific, engineering and technical computer application areas. You should therefore have a proven track record in selling computers, peripherals, software or other electronic equipment, have a technical background and preferably, though not essentially, an understanding of or experience with CAD. A Maths or Computing Degree or other similar qualifications would also be desirable, but by no means essential.

Sales Support Engineer

c £10,000 + Benefits

This newly created position within CalComp's Graphics Peripherals Division offers an ideal opportunity for a suitably qualified digital electronics engineer, or programmer, to move into sales. Based in Bracknell head office, the successful applicant will be responsible for providing technical and pre-sales support in various forms to the territory sales engineers. The job will include performing benchmarks, organising in-house sales demonstrations, answering technical queries from customers and generally taking and qualifying sales enquiries for the sales force. It also includes assisting in our busy exhibitions schedule by taking responsibility for the "logistics" of exhibitions as well as attending them in a sales capacity. Applicants should be presentable, able to communicate well verbally and should have a good knowledge of technical computing. A formal qualification, such as ONC/HNC in Maths, Computing or a science subject, are desirable but not essential.

To apply for any of the positions described here please write to or ring:-
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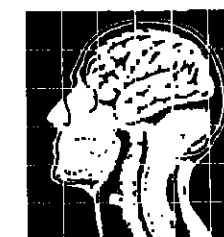
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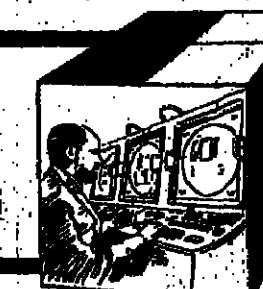
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For further information on these positions please contact Kathy Sinclair or Chris Bond on 01-637 9611.

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Candidates will need to have at least 5 years experience which must include CORAL and MASCOT. Contest and VAX experience would be an advantage. Candidates should have a working knowledge of structured Analysis and Design Techniques together with Software Engineering methods and procedures. Additional skills should include Team Leading and Technical Performance monitoring and estimating. Successful candidates should expect to support business development activities and contribute to the management of the Software Group.

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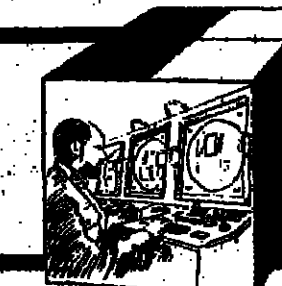
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SENIOR SYSTEMS ANALYST
HERTS
Minimum of four years' insurance experience essential, with Database and T.P. knowledge. R.7597.

SENIOR PROGRAMMERS AND PROGRAMMERS
CITY
International Bank require personnel with COBOL to work on new development projects. Ideally with CICS and DL1 but will consider applicants with either. Banking experience not essential. R.7485.

SENIOR SYSTEMS ANALYSTS
LONDON
Well-known company are looking for business and technical analysts with COBOL, CICS and DL1 experience. R.7445.

ANALYST/PROGRAMMER
CITY
RPG II and International Banking experience required. Position offers travel and an opportunity to be trained on CICS/DL1. R.7484.

UNIVAC SYSTEMS PROGRAMMER
LONDON
Extensive 1100 series software knowledge. ASSEMBLER essential. Communications and Network experience advantageous. Some international travel is involved. G.7428.

SYSTEMS ANALYST
LONDON
A minimum of five years' DP with at least two as an analyst, experience of either Bureau, Software House or knowledge of BURROUGHS hardware is essential. G.7285.

SENIOR SYSTEMS ANALYST/PROJECT LEADER
SURREY
At least eight years' DP experience three of which as systems analyst. Recent knowledge of Penalties and/or Financial/Accounting systems. G.7610.

BURROUGHS SENIOR PROGRAMMER
LONDON
Five years' medium systems experience plus good knowledge of CMS, B90 systems for Banking organisation in the City. G.7267.

CONTRACTS

TANDEM PROGRAMMER
LONDON
Financial organisation in the City urgently seek experienced TANDEM programmer on new project. Substantial bonus upon completion of project. G.7112.

TANDEM PROGRAMMERS
CITY
City company has requirement for several programmers with NS1/2 Guardian experience for long assignment.

ICL IDMS/TPMS
Several vacancies exist at various locations for in depth and practical experience.

SYSTEMS PROGRAMMERS
We require staff with extensive ASSEMBLER experience on Minis. Of particular interest are those who have worked with T10900 or INTEL 8086. We also require an RSX 11M systems person with ASSEMBLER and FORTRAN.

COBOL IDMS DB/DC
We have several requirements for both analyst/programmers and also team of project leaders with the above skills.

SYSTEM 38 PROGRAMMER/ANALYSTS
A number of requirements exist including a long-term banking project in the City.

SYSTEM 34 RPG II ANALYST/PROGRAMMERS
Our client requires three analyst/programmers with the prospect of IBM System 36 experience.

MBASIC/CIS COBOL
We have three clients who have requirements for analyst/programmers with experience with both or either of these languages.

MVS SYSTEMS PROGRAMMER
To advise on VM/SP to MVS/TSO conversion.

COBOL/PRIME/PRIMOS ANALYST/PROGRAMMER
To assist our client in the design and implementation of a system for the Motor Industry.

COBOL CICS DL1
We have a number of vacancies in and around London for people at all levels with the above skills.

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Sceptre House 169-173 Regent Street London W1R 7FB
Telephone: 01-439 7871 Telex: 25851

Ferranti Computer Systems Ltd.

Cheadle Heath Division



up to £14K... attractive benefits... excellent prospects
MANCHESTER... realistic house prices and a 25% saving...
your next career move to a rewarding way of life!

The first ever commercial programmable computer was built by Ferranti in Manchester... and today we continue to make a major contribution to this leading position in real time computer systems for commercial and military applications worldwide.

As a creative force in Electronics, we have constantly pioneered new innovations in real time computer systems and a wide variety of future generation Sonar, Training, Communications and Energy Management Systems are currently under development.

To play a key part in our exciting growth plans we are very interested in hearing from SOFTWARE SPECIALISTS and SOFTWARE ENGINEERS with a degree in an Engineering Subject, Mathematics or Physics and significant experience in real time computer systems.

Informal discussion... please contact Colin Roberts, Career Development Manager on 061-428 0771 during office hours and 061-428 0194 after 5 p.m. and at weekends, or write to Colin, quoting reference 329/33, at Ferranti Computer Systems Limited, Bird Hall Lane, Cheadle Heath, Stockport SK3 0XQ.

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CICS - CICS - DL1 CICS
If you have sound experience in CICS and/or DL1 you are in demand. Currently have a wide range of clients in all areas who are looking for your skills. Vacancies exist in progressive commercial organisations, banks, consultancies, etc. Please call for further information. REF. MB/CT

IBM SYSTEMS PROGRAMMERS
UK or ABROAD
A solid 12-month+ Systems Programming experience can earn you an interview with one of the numerous mainframe installations currently on my files. In-depth knowledge of at least one of the following is required: OS/MVS, DOS/VSE, VM, CICS, ACF/ATAM or DL1. Many of these companies are implementing the latest Hardware and Software releases and now is the time to update your skills. REF. MB/CT

IBM SYSTEM 38 VARIOUS AREAS
We have several clients either running System 38s or in the process of installing new machines. They urgently require RPGII expertise and will pay highly for the right people. Requirements range from Programmer through to Senior Analyst/Programmers (with increasing responsibility) and also include consultancies. REF. MB/CT

WE HAVEN'T GOT ENOUGH SPACE!
With over 120 vacancies for IBM staff currently with us we have a problem. We cannot list each job in enough detail to attract the right applicant. If you are ambitious, presentable and are thinking of progressing your D.P. career, call MARTIN BARRY or RICHARD COATES to discuss your requirements and find the right position.

AIMS ANALYST/PROGRAMMERS
Two banks in the City are currently seeking a range of ANALYST/PROGRAMMERS with AIMS experience to work on DEC PDP 11 and VAX equipment. A variety of Banking, Financial and Commercial Systems are being developed using AIBAT. Candidates with BASIC +/-2 experience, prepared to refrain on AIMS, will be considered. Usual banking benefits apply. REF. JH/CW

BASIC + 2 PROGRAMMER
Lively young PROGRAMMER with 18 months' BASIC + 2 experience is required by marketing company developing Systems on DEC PDP 11, RSTS/E and WANG VS100 equipment. You'll be mixing with creative people in modern offices very near transport facilities. Good perks include ANNUAL BONUS. REF. JH/CW

DEC BASIC +/-2 or COBOL experience?
LONDON AND HOME COUNTIES
PDP and VAX PROGRAMMERS AND ANALYST/PROGRAMMERS are required by clients - Software Houses, Manufacturers, Insurance Companies, Financial Houses, Bureau, etc., both large and small - in Greater London and surrounding areas. If you're thinking of a change, please contact COMPUVAC'S DEC CONSULTANT - JILL HARVEY, NOW!

MINI AND MICRO PROGRAMMERS
ALL AREAS
We currently have many vacancies for Mini/Micro Programmers with a minimum of 18 months' experience using COBOL/FORTRAN/BASIC. Positions exist within software houses, financial and commercial environments. Perks include MORTGAGE SUBSIDIES and COMPANY CARS. REF. SB/CT

BUSINESS ANALYST
LONDON
Excellent knowledge of insurance systems required together with a solid D.P. background stretching over several years. Ideal applicants will have a professional approach, customer presence, commitment and must be prepared to be mobile. REF. MN/CT

LECTURERS
WEST LONDON
Strong commercial, large mainframe experience required, with knowledge of on-line and/or database software. HONEYWELL 180 skills particularly sought after, although any mainframe will be considered. Ability and desire to teach more important than experience as training will be given. REF. MN/CT

ICL PROGRAMMERS
LONDON AND S.E.
Expertise at all levels required - particularly in VME/B, TPMS, IDMS, VME/2800. Also a number of ME28 vacancies - some of which will consider 2804 experience. Environments include software houses, insurance and commerce. REF. MN/CT

BURROUGHS PROFESSIONALS
We are still being retained by many prestigious clients looking for Programmers, Analyst/Programmers and Systems people with experience of BURROUGHS small, medium and large machines, to fill immediate vacancies in all areas. REF. SB/CT

CONTRACTS

SYSTEMS ANALYST
PROGRAMMER
SYS ANALYST/PROGRAMMER
PROGRAMMERS
ANALYST/PROGRAMMER

IBM PAYROLL CONVERSION
APPLE PASCAL
IBM COBOL
TANDEM COBOL
SYSTEM 38 RPG II

MIDOX
NORTH LONDON
MIDDLE EAST
LONDON
CENTRAL LONDON

PROGRAMMER
ALL LEVELS
PROGRAMMERS
PROGRAMMERS & AN/PROGRAMMERS

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VAX COBOL
UNIX + "e"
COBOL CICS DL1

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LONDON
LONDON
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TELEPHONE

253 5042

OR: 10 LINES (24 HOURS)

250 0456

COMPUVAC HOUSE

121-125 City Road, London, E.C.1
(NEXT TO OLD STREET TUBE EXIT) OR SEND C.V. TO
FREEPOST EC1B 1EN

Duncan Bransom Software Systems Ltd. will be continuing their expansion throughout 1983 and are now looking for COBOL PROGRAMMERS £9,000 - £12,000

The company, formed in 1974, has dedicated itself to the production of applications software of the highest quality, mainly for IBM mainframes.

To cope with the steady demand for its services and the growth planned for 1983 there are now vacancies for at least two COBOL Programmers.

Successful applicants will have had a minimum of two years COBOL experience on IBM machines. Knowledge of CICS, DL1, COPICS or ADABAS would be an advantage but this is not essential.

If you are looking to join a small dynamic organisation where, through your ability and hard work, you seek to progress to the top, this could be the opportunity for you.

You should be prepared to work either in our offices in the City or on the premises of our clients, most of whom are located in the London area.

A pleasant, stable working environment is maintained where people can develop their professional skills whilst earning good money. In addition to the salary, which is dependent on experience, there are a range of benefits including paid overtime and a profit sharing scheme.

Please contact **PHILIP TAYLOR** on 01-253 2196 to discuss a possible appointment, or write sending brief details of your career to date. Under no circumstances will your present employer be approached without first obtaining your permission in writing.

A company you can grow with

Duncan Bransom Software Systems Ltd.
Wilco House, 82/84 City Road, London EC1Y 2BJ. Telephone 01-253 2196

Duncan Bransom Limited

Operations Recruitment

WC2, quota earnings £20k + car plus numerous benefits and incentives

CoOperators is a leading force in operations recruitment and contract staffing. As part of the £10m VLI Group (which includes Computer People) we benefit from the facilities and resources of the UK's foremost computer staffing organisation.

These include prestigious headquarters building, three branch offices in the UK, and three more in the USA. Our consultants enjoy the advantage of our own in-house advertising agency, dedicated support and liaison staff, computerised database and w/o functions and impressive conference facilities.

We wish to appoint a consultant to join our London team which recruits permanent operations staff for clients. To be considered applicants should be aged 24-32 and possess:

- a good general education
 - experience of selling products or services within the computer industry for a professional company, or data processing experience with strong salesmanship potential
 - good spoken and written communication skills with a flair for efficient paperwork and administration
 - the drive and determination to succeed in a competitive market place.
- If you think you match up we'd like to hear from you. Ring Kay Stebbings on 01-836 8411 (working hours and until 7pm) to discuss this opportunity.

CoOperators

CoOperators, VLI House, St. Martins Lane, London WC2N 4JS.

VLI 909P

Technical Support Manager

to c.£14,000
+ 2 lease cars
+ benefits

West Midlands
(FULL RELOCATION)



A new Company has recently been established to provide a Parts and Equipment distribution service to the worldwide customer base of one of the UK's leading manufacturing Organisations. The Company will operate on an autonomous basis with its own IBM computer facility supporting an extensive telecommunications network, and will initiate its own systems development plan to cater for the needs of the business.

A Management Team is being recruited to provide the impetus to this new venture and an exciting and challenging future is anticipated.

TECHNICAL SUPPORT MANAGER

This important position calls for a strong technical knowledge of IBM MVS environments together with database and telecoms exposure (ideally CICS/TOTAL/ENVIRON 1). Duties will include controlling a technical team covering Databases, Personal Computing, Operating Systems, and Telecoms Networks, as well as planning future technical enhancements to the installation. Experience will have been gained in Systems Programming or Technical Support, but candidates will need the ability to combine technical knowledge with effective man-management skills. Initially there will be periodic travel to a Northern site, but the new Computer Centre will be located in an attractive area to the South East of Birmingham.

An excellent salary will be paid, enhanced by 2 leased cars under a Management Car Plan, and medical cover through BUPA. Comprehensive relocation assistance will be available to this delightful area with easy access to the countryside of Warwickshire and Worcestershire.

To apply, please contact the Advising Consultant, **Martin Stainthorpe**, on **021-236 3781** (24 hour answering service) and submit a detailed c.v. to him at the Birmingham office of SCR.

Specialist Computer Recruitment Ltd

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IBM PROGRAMMERS HERTS c.£9K

Our client, a household name in manufacturing, running a small DP department are seeking commercial Programmers. Candidates must have minimum 18 months' COBOL in an IBM environment. Experience of CICS or VM/CMS useful.

ANALYST MIDDX c.£10,500K

This financial organisation involved in consumer lending is developing Systems on IBM 4341 under DOS/VSE, VM with CICS. Using COBOL they have established a requirement for an Analyst with programming background to join the team working on on-line systems.

SENIOR PROGRAMMER MIDDX £12-£14K

A multinational manufacturing company running IBM 370 under MVS with IMS CICS and TSO/SPF etc. is seeking a candidate to lead, motivate and train a team of Programmers. Applicants should have four years' experience on IBM Manufacturers including on-line COBOL and preferably some DATABASE.

COBOL PROGRAMMER MIDDX £9-£10K

This prestigious International Company in development of on-line Warehousing/Distribution and related systems on IBM 4341 under MVS soon to install IDMS. They are seeking a candidate with about two years' COBOL preferably on IBM mainframes to join a small team.

SYSTEM 34/38 PROGRAMMER HERTS to £10,000

Our client, a multinational manufacturer of components running 34's moving towards System 38. They are currently involved in MAAPICS both U.K. and Europe and heavily into communications. They require someone with at least two years' RPG II preferably with a manufacturing background, exposure to MAAPICS would be advantageous.

RPG III ANALYST/ PROGRAMMER MIDDX £10-£14K

The services division of a successful company also operates as a software house in the System 38 market they are seeking an applicant with at least three years' DP experience including RPG III. Applicants should be able to successfully lease with clients and take systems from feasibility to implementation.

RPG III PROGRAMMERS MIDDX £8-£11K

A small friendly DP department in a rapidly expanding insurance company has recently installed System 38 they need Programmers with good knowledge of RPG III to join the development team. Long-term prospects are good due to planned expansion. A mortgage subsidy is available.

ANALYST/ PROGRAMMERS BEDS to £10K

A leading service company enjoying rapid growth in an expanding market in the U.K. Currently utilizing 34's soon to be upgraded to 36. Candidates must have a minimum 18 months' to two years' RPG III in a 34 or System 3 environment. Systems include development of financial applications.

For further information contact Nick Lawrie (Middx positions) or Chris Chahade (other positions)
HOWLETT COMPUTER SERVICES
FREEPOST
Leighton Buzzard
Beds LU7 7BR
Telephone 0625 382655 (3 lines) or 029 872 221 (evenings/weekends)

(4831)

HP ANALYST/ PROGRAMMERS MIDDX c.£10K

A software house specialising in HP 260 and 3000 systems is seeking Analyst Programmers with experience of Business BASIC or COBOL. The company is involved in Bespoke Software and its own packages covering accounts, production, planning and inventory control.

SENIOR PROGRAMMER and ANALYST BUCKS c.£11K

Leading manufacturer of high technology products to industry and the medical market. They are seeking a number of people at different levels in particular Programming and Systems people. Senior Programmers will have minimum of three years' COBOL with exposure to HP and supervisory experience. The Analyst must have 18 months to two years' analysis. Experience of HP is an advantage.

PROGRAMMERS ANALYST/ PROGRAMMERS BEDS to £12K

A fairly new installation are currently seeking to build their DP department currently using a HP3000 on sight with a remote site and terminals. Candidates must have two to three years' COBOL of which at least 12-18 months on HP Hardware in a commercial environment.



PROFESSIONAL OPPORTUNITIES IN THE UNITED ARAB EMIRATES



شركة أبوظبي للعمليات البترولية البرية
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We now offer challenging opportunities for professionals with requisite qualifications and experience in the oil industry for the following positions:

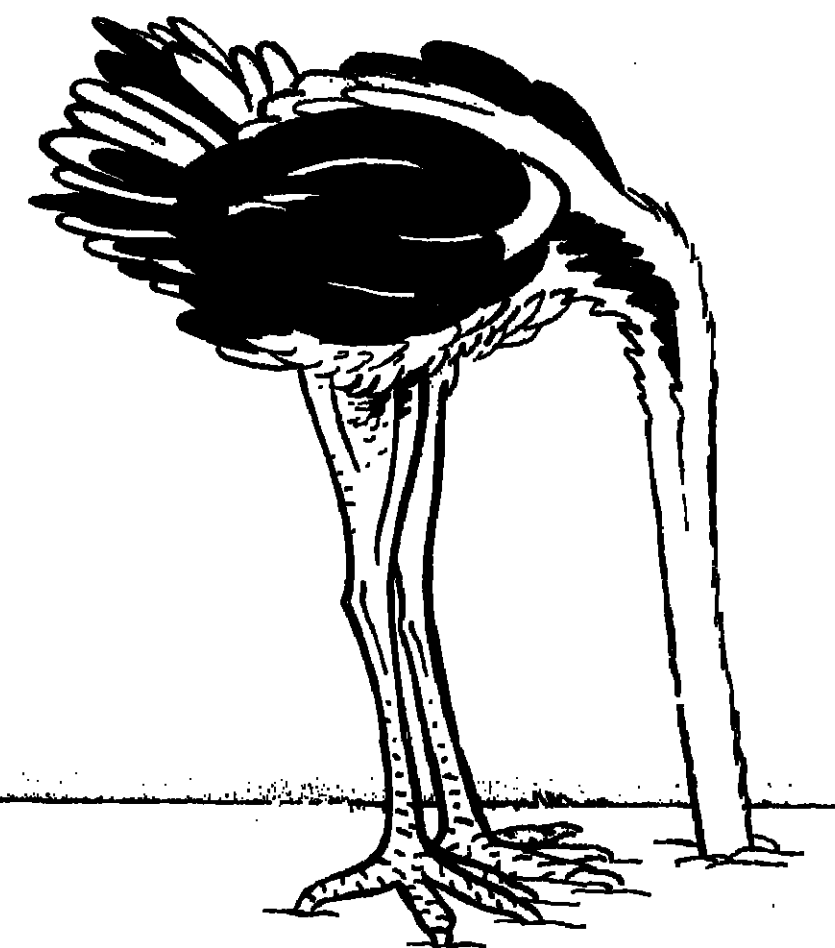
Job Ref.	Post Title	Summary of Duties	Minimum Education & Experience	Salary Range UAE Dirhams	Location
S.10/83	Senior Systems Analyst (Business Application)	Directs & supervises the analysis of business requirements and design & introduction of computer systems to meet these requirements.	a. B.Sc. of equivalent in Computer related subjects plus two years' formal training in Computer Programming and Systems Analysis b. 5-6 years' experience in programming and Systems Analysis work including one year as a Project Leader in Business Applications. c. Good knowledge of English and Arabic. d. Excellent knowledge and experience on the IBM 308X Hardware and IBM Operating System for large mainframe such as MVS/SP, IMS, CICS, TSO, etc. and other software products available in the IBM large mainframe. e. Oil industry experience is preferable. f. Duration of Contract: 2-3 years.	10080-12450 per month	Abu Dhabi Town
S.11/83	Senior Systems Analyst (Technical Application)	Directs and supervises the analysis of business requirements of technical systems, design and introduction of System and Software packages to meet these requirements.	a. B.Sc. or HND in Science or Petroleum Engineering subjects plus two years' formal training in Computer Programming and Systems Analysis. b. 5-6 years' experience in Programming and Systems Analysis work including one year as Project Leader in the technical applications related to oil industry. c. Good knowledge of English. d. Excellent knowledge and experience on the IBM 308X Hardware and IBM Operating System for large mainframe such as MVS/SP, IMS, CICS, TSO, etc. and other software products available in the IBM large mainframe. e. Oil industry experience is mandatory. f. Duration of Contract: 2-3 years.	10080-12450 per month	Abu Dhabi Town

The climate in the area is hot and humid in summer, temperate in autumn but moderate and pleasant during rest of the year. Abu Dhabi is a modern city with good shopping, communications and recreational facilities. Primary and Secondary Schools are available. The Company provides free furnished married or bachelor air-conditioned accommodation and air passage to home country with annual leave of 42 days.

In addition to free medical care, the Company also extends financial assistance to dependents attending schools up to completion of secondary school. Clear handwritten applications (2 copies) in English giving full details of qualifications, training and experience as well as membership of professional associations and supported by copies of relevant testimonials, should be submitted to the following addresses:

- Human Resources Superintendent
Abu Dhabi Company for Onshore Oil Operations,
PO Box 270,
Abu Dhabi,
United Arab Emirates.
- Department of Petroleum,
PO Box 9,
Abu Dhabi,
United Arab Emirates.

RPG II Programmers ISN'T IT TIME YOU GOT AHEAD?



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On-line Development

If you have at least 18 months RPG experience on any hardware this could be your opportunity to join a busy and successful programming team.

Following the purchase of a powerful new WANG VS100 programmers enjoy involvement in the analysis, design and programming of a wide variety of on-line and batch systems. Additionally the DP department is extending its existing telecommunications network and utilising a variety of other new technologies to improve customer service/information systems.

The company is in an exceptionally strong financial position and is totally committed to rewarding staff for their efforts and successes. Regular merit reviews are complimented by a bi-annual bonus scheme and annual cost of living salary review.

If you are looking to further your career in a challenging environment which will generously reward you for your efforts telephone Marc Zundel on 01-938 1804 (or 01-802 0885 between 7.30pm and 8.30pm) or write to us with full career details.

All applications will be treated in strictest confidence.

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Confidential Reply

Our client designs, manufactures, markets and services high performance computers and computer systems. These systems are utilised in industrial applications including process control, power production and distribution, manufacturing and communications network. Viewdata systems are another major market area. They are currently seeking two high calibre Senior Sales Executives to be based from their offices in Berkshire. Candidates should have a proven track record in systems sales, preferably selling Minis to end users and software houses, in the industrial market place. An excellent sales support team and outstanding career opportunities are offered.

LOCATION: BERKSHIRE

73801

apollo computer (uk) ltd

TECHNICAL SALES EXECUTIVE

OTE £27,500 + Car

Apollo Computer have already achieved remarkable worldwide success selling their unique and powerful multiboot work station systems into scientific, engineering and computer science environments. To meet the demand for Domain Systems in the Oxford area, a successful Sales Executive with a minimum of three years' experience is sought. The candidate should ideally reside in the Oxford, west Northants, north Buckinghamshire areas or nearby and will have a technical background with either a Supramat manufacturer, bureau or turnkey supplier. Full product training will be provided in America.

LOCATION: OXFORD AREA

73802

SALES EXECUTIVE

£220,000 + Car



Confidential Reply

A major computer services company, operating on a national basis, has recently launched a powerful financial planning package designed to run on microcomputers. They are soon to mount a widespread marketing campaign and require a Sales Person to develop the existing dealer network.

This is a responsible position covering the country as a whole and reporting directly to the managing director. It is essential therefore that candidates are self starters with a successful background in sales. Experience of financial planning and microcomputers would be an advantage.

This is a real opportunity to establish a new software product and enhance both career and earnings.

LOCATION: UK

73701

RECRUITMENT CONSULTANT

£318,000



Confidential Reply

This is your opportunity to share in the success of the fastest growing consultancy in the UK. Ideal candidates will have experience of selling computer services to business and industry. The company is currently expanding its technical and sales staff and is seeking individuals who are self-motivated and have a proven track record in sales. MBA Search International, has offices in Worcester, London, Manchester and is now seeking to expand with the addition of two further consultants. Selected applicants will receive a high basic salary, car allowance and a real opportunity to increase earnings by way of commission.

LOCATION: WORCESTER AND MANCHESTER

73702

Action..

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ANALYST/PROGRAMMER. SYSTEM 34 RPG II. 2-3 years' experience. West End, to 11k

PROGRAMMER. IBM, COBOL, MVS, CMS. London, to 14k

ANALYST with DATABASE and T.P. experience. Middx., to 14k

PROGRAMMER. ICL, 2900, COBOL, VME/B. Bracknell, to 9.3k

SYSTEMS PROGRAMMERS. HONEYWELL, COBOL, GCOS, TSS, JCL, GMAP. Middx., to 11k

ANALYST/PROGRAMMER. HONEYWELL, 2 years' COBOL experience. Middx., to 10.2k

MVS. Specialist interested in Sales or pre-post Sales support. Herts., c 20k

CONTRACTS

SYSTEM 34 PROGRAMMER. Essex. Immediate start

OPERATIONS

MVS OPERATIONS ANALYST. 5 years' + experience including use of High Level language statistics package. London, c 11k

ICL or DG SENIOR OPERATOR/SHIFT LEADER. Middx., c 9k

HONEYWELL LEVEL 6 OPERATOR. London, c 6.5k

CONTRACTS

BURROUGHS 6700 MCP OPERATOR

BURROUGHS NETWORK SPECIALIST IBM OS/VS1

(4816)

MANCHESTER INTERNATIONAL AIRPORT AUTHORITY HAS ESTABLISHED A NEW POST

SYSTEMS ENGINEER

Who will be responsible for the planning and control, the development, installation and on-going maintenance and performance of computerised systems, the proposal and justification for the introduction of further computerised facilities.

Applicants must have several years' real-time experience of mini and micro computers, be familiar with technical processing and experience of high level languages is essential.

The salary and conditions of this post will be in accordance with P.O. Grade 1/21E. £9,945 to £11,703 per annum, dependent on experience.

Further details and application form are available from the Head of Personnel Services, Room 728, Control Tower Building, Manchester Airport M22 5PA, telephone 061-489 3714.

Completed applications must be returned by Friday, 19th August, 1983.

(4804)

SYSTEMS ANALYSTS - RETAIL

IBM 3081 with MVS using TSO/VSPC/CICS/TOTAL/MANTIS

Halfords have two vacancies in the Systems teams located in an impressive Head Office complex at Redditch.

Candidates must possess:-

- ★ 5-7 years' DP experience with at least 3 years' systems analysis including the leadership of a major project
- ★ Strong business systems skills, particularly in organising and analysing projects
- ★ Ability to communicate with users
- ★ CICS and/or database design experience highly desirable
- ★ 'A' levels

Salary up to £11,000 for suitably qualified analysts seeking a career move into a vigorous environment to play a part in major changes and developments.

The location offers a wide variety of rural and urban housing.

Relocation assistance, staff discounts, subsidised restaurant facilities.

Please write with full c.v. to: Mr. L.T. Richards, Staff Manager, Halfords Limited, 101, 103, 105, Washford West, Redditch, Worcs. B98 0DE.

(4910)



We're Videcom

We're based in a superb new head office building in the beautiful riverside town of Henley. We're British. We're successful.

In the ten years since we started we've made a name for ourselves around the world by designing and manufacturing a unique range of micro computers and terminal systems.

We're still growing fast and we need more good people.

We need a Micro Computer Co-ordinator

Someone to organise, deliver and install Videcom Micro Computers, gathering together the hardware, software and peripherals.

The successful applicant will be educated to degree standard and experience in a similar position or a good knowledge of CP/M, Wordstar etc. is a prime requirement.

We'll pay you your worth, provide you with a company car and offer you the range of fringe benefits you'd expect from an international company.

If you feel this position is just what you are looking for, ring Henley (04912) 78427 and ask for Sylvia Quedley.

Videcom Limited,
Newtown Estate, Henley-on-Thames, Oxon. RG91 1HG



Operations Development Controller

NEWCASTLE UPON TYNE up to £12,515

Northern Gas operates an advanced IBM large scale computing environment based on Multiple 303X processors operating MVS/SP and CICS sharing a 15,000 megabyte physical database and supporting a rapidly growing SNA network of over 300 terminals.

A business systems planning study has been carried out and computer systems development planning is currently under way. The resulting expansion of the Computer Services Department has created this vacancy.

Reporting directly to the Operations Manager, the person appointed will lead a team of Operations Analysis staff engaged in the definition, design and operation of standards and procedures relating to all aspects of the efficient running of the central computer installation. In particular this will include liaison with Systems Development staff at all stages of application development, design and implementation of automated job control procedures, security and recovery procedures, contingency planning, calculation of operational requirements including hardware and software aspects, and the carrying out of feasibility studies and special projects as necessary.

Wide experience of commercial data processing is required covering both applications development (feasibility studies, application design, development and support) and the various operational aspects of running a large installation supporting a wide range of complex and integrated on-line and batch applications. An appreciation of the disciplines of problem and change control would be an advantage.

Salary will be in the range £10,857 - £12,515. This post is open to men and women and benefits are those normally associated with a large progressive organisation.

Application forms for the above position are obtained by phoning (0632) 685882 anytime, or writing to the Personnel Services Manager, Northern Gas, PO Box 1GB, Newcastle upon Tyne, NE99 1GB, quoting the reference number V121A.

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SYSTEMS & PROGRAMMING

CONTRACT REQUIREMENTS

IBM SYS 38, RPG III PROGRAMMER (IMMEDIATE)	- LONDON
IBM SYS 38, MAAPICS PROGRAMMER (IMMEDIATE)	- S.W.
IBM DOS, VSE, PL1 PROGRAMMER	- SURREY
ICL SYS 25, ASSEMBLER A/P (IMMEDIATE)	- HOME COUNTIES
VAX VMS, COBOL, SYSTEL PROGRAMMER	- SURREY
IBM MVS, MSA (ACCOUNTS PACKAGE) ANALYST	- S.E. LONDON
TANDEM, GUARDIAN, COBOL PROGRAMMER	- CITY
IBM DOS, VSE, COBOL, SHADOW PROGRAMMER (IMMEDIATE)	- HERTS
ICL VME, COBOL, IDMS, TPMS PROGRAMMER/ANALYST & A/P	- LONDON/ H. COUNTIES
IBM DOS/VSE/VM, CICS, PL1 PROGRAMMERS	- BRUSSELS

Phone Lorraine Maddison, Lynne Lawes, Heather Craddock, or Wendy Howard on 01-948 5922 office hours or Lynne Lawes 01-543 4140 evenings and weekends.

PERMANENT POSITIONS

PROJECT MANAGER

West London

To manage several project teams working on an international distribution system. You should have a sound grasp of mini-technology utilising database techniques, and be prepared to travel to the major sites. Some hands-on analysis and programming may be required at times. Quote Ref. 8165/CW.

to £14,500

PROJECT LEADER

A major international organisation in the leisure industry is looking for a Project Leader. With a minimum of two years' analysis and a year's Cobol programming experience. You will work on the development of a multi-national distribution system. Systems Analysts looking for the move up to Project Leader should be prepared to travel. Ref. P8165/CW.

to £13,500

ANALYSTS/ANALYST PROGRAMMERS

West of London

A fast-growing mini-computer software house is currently looking for those additional Analysts/Analyst Programmers. Based at the West London office you will be responsible for developing and installing bespoke software on client sites. Previous experience of Datapoint mini-computers would be an advantage but is not essential - you should be educated to degree standard and have had experience of preparing recommendations and reports for clients. Ref. 8164/CW.

to £13,000

TECHNICAL SUPPORT

IBM 43XX

A large company in the process industry is currently migrating from DOS/VSE to VM, and requires two technical specialists. You will be responsible for providing both on-line and batch users with the technical input necessary to ensure a smooth and efficient changeover and for installing new releases and software aids.

Systems involved cover both financial and commercial areas as well as manufacturing. Ref. 8102/CW.

to £11,500

PL/1 PROGRAMMERS/JUNIOR ANALYST/ANALYST

A large company in South London is looking for staff to fill the above vacancies. This IBM site uses CICS, DL/1, and CMS, and experienced people can look forward to a challenging future. Salary levels and benefits are excellent with opportunities for career progression.

We also require the following staff for other clients
IBM CICS, DL/1 SYSTEMS PROGRAMMER
IBM COBOL, IMS - PARIS
SCIENTIFIC/RADAR PROGRAMMERS & A/P
HONEYWELL L6/MOD 400
TANDEM PROGRAMMERS
FOREIGN EXCHANGE ANALYST (three/four years)
IMS PROGRAMMERS (SOUTH COAST)

£12,500
£14,500
to £12,500
£8-10,000
to £11,000
to £13,000
to £11,500

Please contact DAVID at KPG or on 01-747 0969 during the week or at weekends.



KPG Computer Support Services Limited
Cobden House, Park Lane, Richmond, Surrey, TW9 2RA

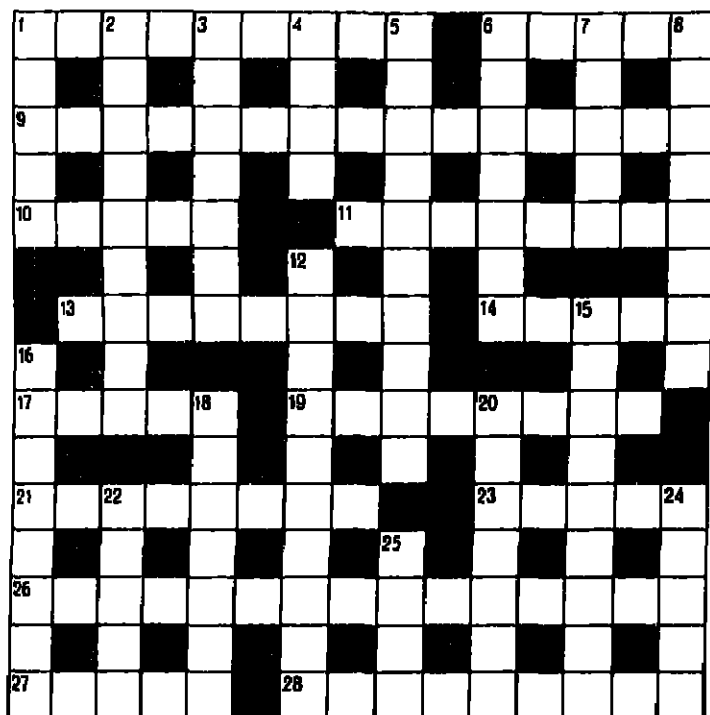


CROSSWORD

Prize Crossword No 43

Compiled by Alec Robins

A prize of £10 will be awarded for the first correct entry opened. The second and third solutions opened will receive £5 each. Entries to Crossword Competition, Computer Weekly, Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS, by first post Friday, August 12. Please use a ballpoint to complete the crossword, and include a telephone number at which you can be reached during the daytime.



Name (Miss, Mrs, Ms, Mr)

Address

Telephone

I accept the rules and conditions of the Computer Weekly Crossword Competition.

Signed Date

ACROSS

- Unrestricted traffic, without charge, to move rapidly back East (4,5)
- What model did, being exceptionally big, when caught by returning deputy (5)
- Listener tucking into vegetables that show signs of bruising (11,4)
- Bird initially keen to show off (5)
- Fighters who have damaged ribs? Sure! (8)
- Turn and move about confusedly in the theatre (8)
- A transparent fabric, look, wrapped round uranium (5)
- A southern novel in apparently perfect condition (2,3)
- What goes on foremost, perhaps, makes chiefs become ill (4,4)
- Avoid having fish and fowl (8)
- Astir behind, grabbing a couple of ducks (5)
- But, for instance, can run into flames when swerving (9,6)
- Mothers drinking a spot of rum in small portions (5)
- Hell the man's had among a backward group (3,6)

DOWN

- Converge, making most of enemy sweat endlessly (5)
- A Mountie, about fifty, versatile in competition (9)
- Edward, holding a sack, gets duped (7)
- Competent sailor joins the French (4)
- Two kings who wrote nonsensical verse (6,4)
- Standard speed when carrying monarchs where one can pull in (7,5)
- Diana's plant is a complete failure (8)
- It can trap a swimmer and finish gent off (7-3)
- World authority I established, dressed like soldiers, say (9)
- People drinking hot will get the editor enraged (8)
- The legal profession turned up, crazy for some dessert? (7)
- Trusty aunt's unruly child (7)
- Company takes care of one, providing a drink (5)
- Is untruthful - ie lets all become distorted (5,1,3)

RULES AND CONDITIONS

- Each competitor may submit no more than one entry.
- The competition is open to all readers of Computer Weekly with the exception of the staff of Business Press International Ltd, any printers employed by them or the near relatives of any staff staff.
- The solution of each puzzle will normally be published in the issue three weeks after the puzzle has been published.
- Winners will receive their prizes during the month following the competition.
- The decision of the editor on the interpretation of the rules and conditions and on all matters shall be final. No correspondence will be entered into.

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ALLTRONICS PEOPLE (AGY.)

(4811)

IBM OPPORTUNITIES**COBOL PROGRAMMER To £9,500**

MIDDLESEX. Excellent opportunity for a programmer with 18 months + IBM COBOL, to gain on-line experience with this prestigious world-wide organisation in Middlesex. Current configuration is an IBM 4341 under OS/MVS, with IDMS coming in shortly. You will be an integral part of a development team working on financial and commercial on-line projects, using structured programming techniques, and benefits include discount on goods, car scheme and subsidised restaurant. REF G/2440

ANALYST/PROGRAMMERS To £11,000 + Relocation

ESSEX. Due to continued company expansion, this leading financial concern are seeking to recruit additional IBM Analysts/Programmers to join their D.P. Department that is currently involved in significant development projects. The company house an IBM 4341 running DOS/VSE & CICS. Working knowledge of VSAM would be an asset. The ideal applicants will be highly motivated and prepared to take up a challenge. The company offer excellent working conditions which includes non-contributory pension scheme, BUPA, Active sports and social club. REF G/2103

IBM PROGRAMMER £10,000

CITY. An international organisation is currently seeking an IBM COBOL programmer with a minimum of 2 years' experience. The company retain an IBM 4341 running under MVS and CMS. You will be solely involved with on-line development work, and CICS experience would be useful. You will enjoy a variety of benefits including flexitime, L.V.s and S.T.L. REF G/2435

IBM PL/1 c. £9,500 + Mort

CITY. Excellent opportunity to widen your experience with this major banking concern. If you can offer 12 months + IBM MVS or OS/VSE experience with fluency in PL/1 programming language, they will offer you full training in Database techniques, and all aspects of systems design. A full banking package is offered which includes mortgage subsidy. REF D/2631

PL/1-TRAINING IN CICS**£GOOD!!!**

This highly successful Kent based PL/1 site is expanding and is currently seeking programmers with a minimum of 12 months PL/1 experience. The majority of work is of a development nature and will involve the successful applicant in much user-contact. The successful applicant will be given training in CICS and the opportunities to improve and utilise their skills. The company offers many financial benefits including low interest mortgage, bonuses, and non-contributory pension scheme. REF D/2632

PROGRAMMER/ANALYST**£10,500**

LONDON. An exciting opportunity for an IBM COBOL Programmer to become immediately involved in the development of an on-line/database commercial project. You will be using an IBM 4341 running under DOS/VSE, CICS & DLI. Experience is an advantage although training can be provided where necessary. Package includes non-contributory pension scheme, free life insurance, substantial twice yearly bonus, and active sports and social club. REF. G/2365

RPG II/III**IBM SYSTEM 38 To £12,500**

WEND. Superb opportunity to join this highly professional financial organisation based in the heart of the West End. As a key member of a small team you will be responsible for development of Accounting and Insurance Systems. You will be given every opportunity to increase your analytical skills. Excellent working conditions, including air conditioned offices and free lunches. REF G/2634

RPG II/III £12,000

MIDDLESEX. Senior position for an experienced IBM System 340/360 Programmer/Analyst to play a leading role in a major conversion project, which will involve a lot of user contact and liaison with senior managers. Once the project is completed you will receive RPG II training and work solely on the IBM System 38. REF G/2611

IBM SYSTEM 34 £10,000

LONDON/HERTS BORDERS. 1 year's IBM System 340/360 II experience. Preference will be given to those with a good knowledge of the required for this major group of companies. The successful candidate will be involved in many varied and challenging development applications, including training in analysis, and liaison with non D.P. users. You will be well rewarded in terms of salary and perks. REF G/2635

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Brushfield House, 12 Brushfield Street

Bishopsgate, London E1 6AN

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ENGLEDOWN

COMPUTER PERSONNEL CONSULTANTS

ANALYST/PROGRAMMER To £12,000

LONDON. Highly reputed firm of commodity brokers based in the City requires an RPG III Analyst/Programmer who will be a key member of a small on-line development team, who are embarking on a large financial project. If you seek a challenging position this could be an ideal career move for you. Perks include £5 per week L.V.s and interest free season ticket loan. REF G/2590

OTHERS**HEWLETT PACKARD - SENIOR****c. £12,000 + RELOCATION**

An excellent opportunity has arisen for a Hewlett Packard programmer to move into analysis. This high technology company based in Bucks, seek ambitious persons with experience of H.P. IMAGE, VIEW and/or structured systems analysis techniques. Many new development projects are anticipated for the future, following the installation of a new network of HP3000 machines. Applications include Order Processing, Distribution and Export. The company offers an attractive salary and package which will include relocation. REF A/2561

HEWLETT PACKARD - COBOL £10,000

You offer in excess of 6 months commercial HP3000 COBOL experience? My London based client can offer you the chance to become extensively involved in on-line development projects of an extremely challenging nature. You will have much user contact and will soon be completing your own analysis duties. The opportunity also exists for you to learn a new language. REF A/2531

HONEYWELL - ALL LEVELS To £10,500

My Essex based client is seeking Honeywell mainframe COBOL expertise at all levels from Programmer to Senior Analyst/Programmer. 18 months + relevant experience is required, including DM4 and/or TDS. The more senior applicants will immediately be involved in challenging database development projects, including completing systems design work. The programmers will be encouraged to move into analysis work by writing their own specifications for interesting on-line development projects both of a commercial and financial nature. Benefits include 5 weeks' holiday; subsidised restaurant; company car; non-contributory pension scheme and social club. REF A/1712

HONEYWELL MINI-COBOL/SCREENWRITE To £10,000

This London based Honeywell L6 site would like to hear from L6 Programmers within excess of 12 months COBOL and/or Screenwrite expertise who wish to further their career in a financial/commercial environment. You will play an integral part in a team developing new real-time systems for the company's use. There will be much user contact and the chance to progress into analysis. For this and many other L6 positions call now quoting: REF A/2568

DEC/PDP-BASIC + 2 c. £9,500

This prestigious multi-national company utilises the latest technology to administer its manufacturing and commercial projects. To assist in the development of highly sophisticated systems an additional Programmer/Analyst is to be appointed. Ideal candidates should have a minimum of 12 months' DEC/PDP BASIC + (2) exp, hopefully but not essentially with RSTS/E. You will also be trained on another mainframe. Company is based on the London/Middlesex borders. REF A/1249

COBOL - RETRAIN LATEST EQUIPMENT To £11,000

Excellent opportunity for COBOL Programmers to retrain onto the latest Honeywell kit. Due to expansion, my Surrey based clients seek applicants with upwards of 2 years COBOL experience, hopefully with knowledge of structured programming. Preference will be given to those with on-line and/or database backgrounds. They are currently embarking on a series of financial development projects using the most recent programming techniques. There is a degree of analysis involved and the successful applicants will have regular user liaison. Company benefits include a non-contributory pension scheme, L.V.s and 5 weeks' holiday. REF A/2359

DEC - RETRAIN TO IBM! c. £9,000

Exciting opportunity for a DEC/PDP BASIC 2 programmers to begin retraining about immediately on a new IBM 4331 using CICS. You will be required to complete some maintenance on the DUC, whilst developing projects on the IBM Applications include Order Processing, Management Information, and Logistics. London based, my clients offer a good career path, excellent salary and extensive training. REF A/2369

BURROUGHS - COBOL To £12,000

A semi management position exists for a D.P. professional with in excess of 3 years solid BURROUGHS COBOL expertise, preferably with having done some systems work. You will be reporting directly to the Financial Director and will take responsibility for a large area of the department, running a sophisticated Accounting System. Liaison with users will play a large part in the job as will management liaison. A salary is offered and benefits include free life insurance, BUPA, lunches and excellent working conditions. REF A/1010

ANALYST/PROGRAMMER c. £9,500

BERKS. Superb opportunity for an experienced and enthusiastic programming professional with three years ICL COBOL, including one year as an Analyst/Programmer take up key position within this major manufacturing company. The successful candidate will be joining a busy development team, working directly with user groups to design, write and implement a range of commercial systems. The work will be based on ICL 2956 and ALE29 hardware. Good prospects for progression and to increase technical expertise. Company benefits include 5 weeks holiday, free life assurance and pension scheme. REF D/2633

Z80 £FIVE FIGURES!!!

Highly successful West End based bureau currently seeking experienced Data Processing professionals with considerable experience of ASSEMBLER on Z80/6502 micro hardware. The successful applicant will be developing a range of financial, banking, and commercial applications. This is an outstanding opportunity that offers a full benefit package and very high salary for the right person. REF D/2348

MAJOR ICL DEVELOPMENTS c. £9,500 + Mort.

SURREY. This Surrey based insurance concern currently in the process of developing new systems are offering interesting work to programmers and analyst/programmers who offer in excess of 18 months' ICL COBOL experience. Experience of VME will be desirable, and will be rewarded accordingly. Full training is offered in database techniques, T.P. systems, and aspects of systems design. This is an excellent opportunity to gain varied and practical experience while pursuing a worthwhile career. Company benefits include 4 weeks' holiday; subsidised restaurant and pension scheme. REF D/1739

DATAPoint OR TEXAS INSTRUMENT £9-13,000

Two outstanding opportunities with London and Middlesex based software houses. One requirement is for a Datapoint programmer with Databas and Datasheet experience to develop commercial and communications systems. The other for a COBOL Analyst/Programmer with Texas Instruments or other mini COBOL experience. Full company benefit package and good career prospects for the right people. REF D/26154

SYSTEMS ANALYST £11,000

ESSEX. Large progressive company based in Essex housing ICL 2956 is seeking an experienced analyst with one or more years' formal analysis experience and should be able to demonstrate skills in either the financial, commercial or technical sectors. VME exposure would be preferred but is not essential. The successful candidate will also have the ability to liaise with users at all levels. Ideal opportunity to join a challenging, dynamic but friendly team. REF D/2636

FORTAN - PDP £NEB

Can you offer a minimum of 2 years' FORTAN expertise, on DEC/PDP equipment? You will become involved in the development of engineering and scientific projects, using graphics. Extensive training is offered in RSTS/E, ILM, CP/M, UNIX and MACRO II if required. Kent based, my client is seeking a Programmer/Analyst with the desire to move into systems work in the near future. Salary will be commensurate with your experience and other benefits include Lunchclub, sports and social facilities. REF D/1159

ENGLEDOWN
COMPUTER PERSONNEL CONSULTANTS

Applications are invited by the Police Authority for Northern Ireland from men and women not more than 55 years of age on 11 August 1983 for the posts of:

SYSTEMS ANALYST/PROGRAMMER ANALYST

Required for work in the Royal Ulster Constabulary's Computer Services Branch. Duties will include:

- Development, installation and enhancement of mini computer systems for administrative and operational requirements.
- Assisting in the operation and maintenance of such systems.

SYSTEMS ANALYST (Salary Scale £8,166-£10,218)

Applicants must have either a minimum of 5 years experience or at least 4 years experience plus a degree, HND or equivalent qualification in computer science, engineering, mathematics or other allied discipline.

PROGRAMMER ANALYST (Salary Scale £6,819-£8,717)

Applicants must have either a minimum of 3 years relevant computing experience or at least 2 years experience plus a degree, HND or equivalent qualification as above.

Grading and starting salary will be related to qualifications and experience. Allowance may also be made for relevant post graduate experience.

Non-contributory pension scheme (apart from a deduction of 1 1/2 % towards provision of widow's pension in the case of male officers).

22 days leave per year in addition to public holidays.

The Authority may decide to interview only those applicants who appear from the information available including qualifications, duration and extent of previous experience, to be best suited for the post.

Application forms which must be returned not later than 11 August 1983 and conditions of service are obtainable from Recruitment Section (Telephone Belfast 23011, Ext 242 and 271).

(4782)

POLICE AUTHORITY FOR NORTHERN IRELAND
5th floor, River House, 48 High Street, Belfast BT1 2DR

Development Project Manager Up to £14,300**Systems Analyst Up to £11,600**

Two experienced computer professionals are required to join our development team, one as Project Manager, the other as a Systems Analyst. The Project Manager will be responsible for the development, management, supervision and control of a large scale on-line T.P. system for which a multi-discipline Project Team is already in operation. Both persons appointed will have had considerable experience in the development of on-line systems preferably within a Honeywell environment.

This is the largest London Borough and we are involved in a comprehensive development programme utilising a Dual 88/DPM4 Honeywell Mainframe computer, together with various other mini and micro computers. Air conditioned offices adjacent to a large modern shopping complex and rapid transport links with central London (17 minutes by rail) and the South Coast.

Salary according to experience, will be within the range £13,335-£14,320 p.a. for the Project Manager and £9,657-£11,649 p.a. for the Systems Analyst with a contributory pension scheme and an annual leave entitlement of 24 days. The flexitime scheme is in operation.

CROYDON
Contact 8, W. Alfred on 01-886 4433 extn. 2881 for informal discussions and/or send full c.v. to Head of Computer Services, London Borough of Croydon, Taberner House, Park Lane, Croydon CR9 3J8. (4828)

MANAGER**SKELMERSDALE INFORMATION TECHNOLOGY CENTRE**

£12,408-£13,805

The Skelmersdale Information Technology Centre, which is being sponsored by Lancashire Enterprises and West Lancashire District Council is seeking a Manager to lead a team to supervise this challenging new project.

The Centre will provide 12 months' training and "hands on" work experience for 40 young unemployed people in the new information technology, thereby enhancing their job prospects.

The Centre will cover three main areas of training: (i) Micro-Electronics/modern electronics component and the use of microprocessors as simple control devices; (ii) Microcomputing skills associated with microcomputer operations, an appreciation of computer architecture, both hard and software, and an elementary high-level programming facility; and (iii) the Electronic Office/uses of computers and electronic communication systems in modern business applications.

In addition the Centre will assist the local industrial and commercial community by making the technology accessible to local firms especially new and small businesses.

The successful candidate will be responsible to the Management Committee for the efficient and effective running of the Centre, and will have qualifications and/or significant experience in the micro-technology field. The position requires the ability, enthusiasm and commitment to motivate young people and to establish and maintain a wide network of contacts with industry, commerce, academic institutions, etc., in order to develop the work of the Centre in an imaginative way.

More detailed information can be obtained from the address given below.

Please write with full c.v. to the Personnel Manager, West Lancashire District Council, 82 Derby Street, Ormskirk L40 2DF. (4804)

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100-102 St. James Street, Birmingham B2 4JD (021-6251242)

Data Processing Manager

Grade PO 3 (J)
£15,630-£16,950 Inclusive.

Following the promotion of the postholder to a Chief Officer appointment with another London Borough, the council is now inviting applications from persons who have had extensive experience at a senior level of Local Government computing. The Council has a twin IBM CPU installation with over 100 terminals and a substantial workload for all departments of the Council and the London Borough of Richmond. The complement of computer staff totals 50. Current developments include a variety of systems on the main frame, growing use of personal computers and the possible development of a Private Viewdata System.

The Computer group is a separate division within the Borough Treasurer's Department and the postholder will lead and manage the group as well as serve as a member of the Treasurer's Management Team.

The appointment calls for a high level of management skill and the successful applicant will be expected to take a positive role in developing computer services for the Borough.

Application forms from the Administrative Officer, Borough Treasurer's Department, Civic Centre, Lampton Road, Hounslow TW3 4DN. Tel 01-570 7728 ext 3372. Closing date: 12 August 1983.

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Teesside Polytechnic**SPECIFICATION OF REQUIRED TERMINALS**

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- 26 Lear-Siegler ADM 5 Visual Display Units
- 8 Lear-Siegler ADM 5 Visual Display Units with RG1000 or GEN II graphics capabilities (including manual control of graphics cursor)

Separate quotations should be given for items (a) and (b) above, and the Polytechnic reserves the right to accept the quotation for one item but not the other.

Details may be discussed with the Head of the Computer Centre: Telephone Middlebrough 218121 ext. 4118. Closing date: 18th August 1983.

Delivery is required by September 1983. Quotation forms may be obtained from: The Supplies/Purchasing Officer, Teesside Polytechnic, Borough Road, MIDDLESBROUGH, Cleveland TS1 3BA. (4765)

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SALES BIT

Quality of Management - 62

Why most sales managers fail

DESPITE the high level of unemployment any recruitment agency will tell you that, irrespective of job function, it is still as difficult to find capable and successful people as it has always been.

Sales managers are no exception, indeed, one does not have to look too far to see how many inadequate people are able to sustain a living in the role of sales manager without any real chance of ever fulfilling the obligations of their position.

There are so many who have no true perception of what constitutes a successful sales manager, let alone the means by which success can be achieved.

Certainly it is always much easier to point out the failings of others than to highlight their accomplishments. From theatre to sport, politics to business there is never a shortage of negative criticism. The doors are always vastly outnumbered by those who are anxious to tell us what we are doing wrong, yet somehow avoiding the risk of demonstrating, by way of personal example, how we shall do it right. The world, it seems, is full of consultants.

Conversely, the impersonal and inflexible manner of the company, newly aware of factors shareholders and pedastalled overlords seems too cold a bedfellow on which to bestow one's unbridled loyalty.

Nevertheless, unavoidable truth has to be faced. The company put you in the job and pays you to do it right. You shouldn't have joined if you can't take a joke!

I believe the best recipe for success is to develop the skill of holding the middle ground. Nobody loves a megalomaniac; no company respects a manager who cannot mentally "leave the ranks".

Just as the salesman must develop the skill of being the company to the client and the client to the company, the sales manager must become the company to the salesman and the salesman to the company. (This applies equally if your direct subordinates are themselves managers).

It is the difference between being with the sales force as opposed to of the sales force, sympathetic to their problems and opportunities without being their ally in an undeclared war against that amorphous and unforgiving monster the company, which apparently pursues its remorseless path for ever while the salesman, it seems, is only as good as last month's performance.

Being "pig in the middle" is always difficult task, but by definition the game can only be played by remaining firmly in the centre. Once you have earned the label "still in the ranks" or "company man" it is difficult to throw it off - almost as difficult as accepting that in this, a very important aspect of sales management, you have failed.

Yesterday you achieved it yourself by direct and undiluted action; today success must be accomplished through other people. When you started out as a salesman, you no doubt enjoyed your basic selling training and probably gained much benefit from specialised courses on particular aspects of selling. Now, as a shiny new sales manager there is no time, no funding, no appropriate training course or no inclination on the part of the company to provide the means for obtaining the skills you so desperately need.

So what do you do now - sit behind your desk and contemplate your globe of the world, rush out and prove to the sales force you're a better salesman than any of them, or write a memo to let everyone know who's in charge.

It isn't easy. Sales management for beginners is usually a "booby-trap" job. Yet even for the apparently experienced manager things often run awry.

Perhaps if we look at some typical areas of failure it may be possible to identify what sales managers can do to maximise their effectiveness.

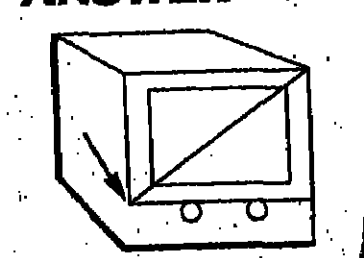
A common problem, particularly for those new to sales management, is establishing the right kind of relationship with those who were previously colleagues

and drinking partners and are now subordinates through whom sales success has to be achieved.

The easiest route is to continue to be one of the boys: "Look here lads, some are born managers, some become managers and others have management thrust upon them. I didn't really want this job, but now I've got it why don't you know what real mates you are and help me achieve these wholly unreasonable sales targets?"

It takes far less effort and courage to take the salesman's side in company related issues irrespective of truth and responsibility. It is difficult not to sympathise with someone who has the problems and pressures you have experienced yourself, someone you have perhaps known for years.

MOVE the pencil vertically to the first intersection, and then turn left and deal with all the "interior" lines apart from the circle-line. Connect again to the same intersection, and then go all the way round, the outside to the start-point, before turning left to take in the circle-line and reach the finish arrow.

PUZZLE ANSWER

MOVE the pencil vertically to the first intersection, and then turn left and deal with all the "interior" lines apart from the circle-line. Connect